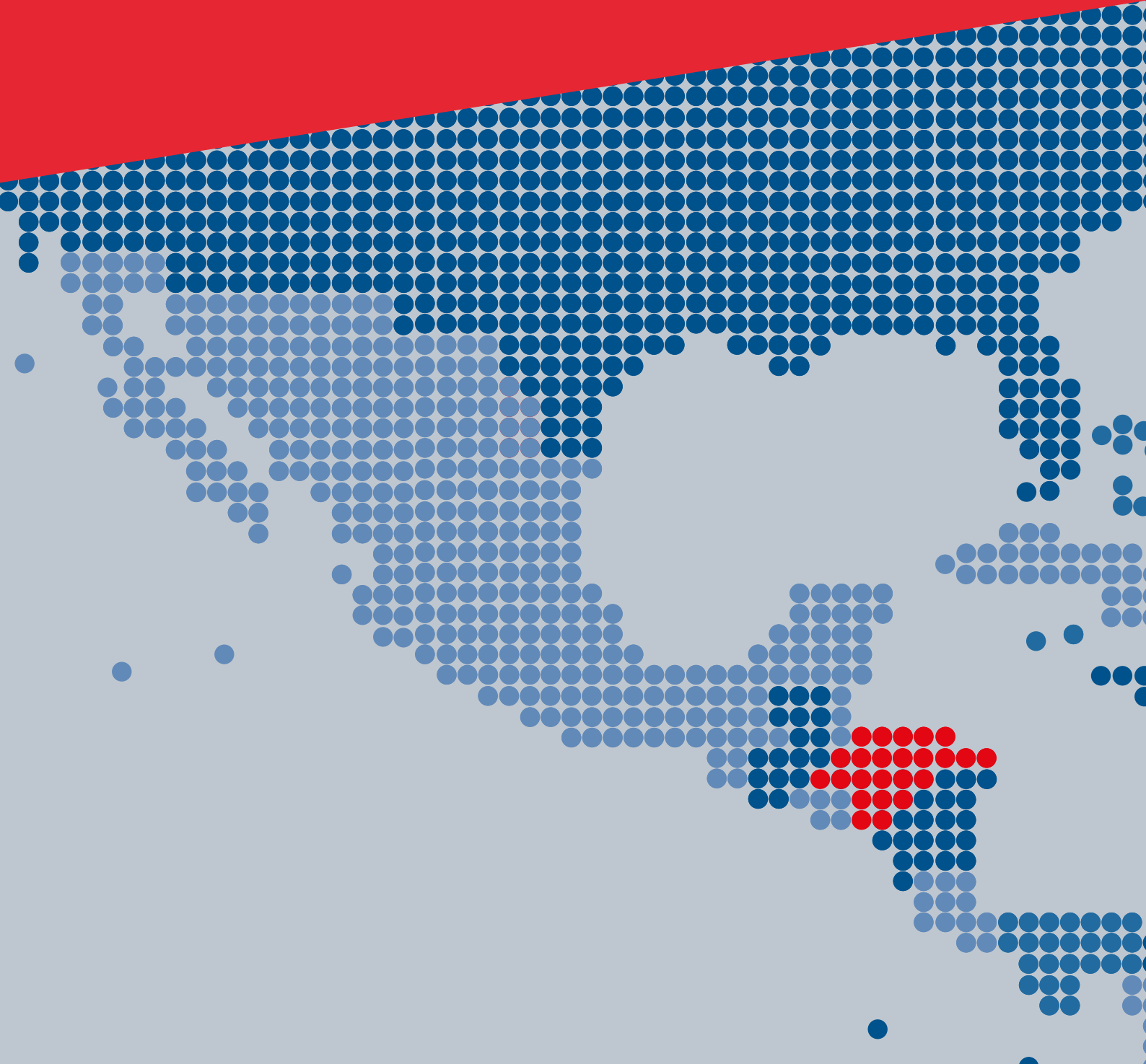




Digital inclusion and mobile sector taxation in Honduras





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Deloitte contact

Davide Strusani
TMT Economic Consulting, London
dstrusani@deloitte.co.uk
www.deloitte.co.uk

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Executive Summary

Mobile services are driving connectivity in Honduras and delivering significant benefits for its economy

Since the launch of mobile services in 1996, the mobile sector in Honduras has grown rapidly and today there are over 5.4 million users, representing 66% of the population. The mobile industry is playing a key role in delivering connectivity to Honduran households, particularly in rural and remote areas where it is difficult and more costly to develop fixed line infrastructure. Investment in mobile infrastructure in the last years has led to 3G coverage being available to 89% of the population, although only 22% of the population is currently accessing high speed mobile broadband (3G or 4G services).

The use of mobile services has the potential to deliver a wide range of benefits to Honduras through promoting digital inclusion, which enables people to benefit from the exchange of information, has the potential to improve access to education, healthcare and government services, and promotes economic growth as found in studies by the World Bank. For example, mobile money services are helping to increase financial inclusion, as recognised by the sector regulator, Conatel, while SMS services are supporting farmers to receive accurate and timely information. These impacts have the potential to support the government in achieving many of its development objectives outlined in the Plan Estratégico de Gobierno 2014-2018 (Government Strategic Plan 2014-2018).

Mobile and telecommunications specific taxes increase the tax burden on mobile operators and affect affordability

Mobile operators in Honduras are subject to a number of telecommunications and mobile specific taxes and regulatory fees. These include:

- A mobile security tax introduced in 2011 as a temporary tax, charged at a rate of 1% of gross income of mobile operators.
- A municipal telecoms services selective tax that is levied on telecommunication services providers at a rate of 1.8% of gross income from airtime services.
- Recurring spectrum fees, where the rate is determined by several technical factors related to frequency and is adjusted annually in line with inflation.
- Concession and supervisory fees at the rate of 1.5% and 0.5% of gross income, including a contribution of 1% to the universal service fund (FITT) that was established by the central government in 2014.

- An annual numbering fee set at US\$ 0.03 per number and an international incoming calls fee at US\$ 0.03 per minute.

Mobile operators paid an estimated US\$ 228 million in taxes and regulatory fees to the Honduran government, which represented 23% of their market revenue in 2014. On a similar basis, the taxes and regulatory fees levied directly on mobile operators comprised 14% of market revenues.

In addition to the taxes and regulatory fees discussed above, in 2013, the largest mobile operators, Tigo and Claro, paid US\$ 12.1m each in an auction for 4G spectrum.

Taxes and fees imposed on the mobile sector affect affordability of mobile services for consumers. High levels of income inequality and the low purchasing power of a large proportion of Honduran households

mean that affordability of mobile services is a significant barrier to broader uptake across the population of traditional mobile services and mobile broadband. For four-fifths of the population, the cost

of both basic mobile services and mobile broadband exceeds the 5% of monthly income, an affordability threshold established by the Broadband Commission for Sustainable Development.

By transitioning to a non-distortionary tax system, the Honduran government can promote digital inclusion, economic growth and fiscal stability

The mobile-specific taxes that are levied in Honduras do not appear to fully align with many of the recognised principles of taxation outlined by organisations such as the International Monetary Fund (IMF). In particular, the IMF recommends that taxation should be broad-based and account for sector and product externalities, whilst taxes such as the mobile security tax are not broad-based and may lead to inefficiently low consumption and investment in the mobile sector, and do not account for any positive spillover effects which may be felt within the wider economy.

Discussions with Honduran mobile operators have indicated that the mobile industry has a role in supporting economic development, providing government revenues and therefore contributing to public services. However, seeking to impose a greater burden of taxation on mobile, whilst potentially delivering short-term benefits to government revenues, could be to the detriment of long-run socioeconomic development.

A number of scenarios have been analysed which examine the impact of changes to mobile specific taxation on mobile penetration, economic growth and tax revenues. The scenarios consider the impact of abolishing the international incoming calls fee, the abolition of the mobile security tax and the abolition of the FITT contribution. Across these scenarios, the reduction of the tax burden on mobile operators has the potential to reduce their cost of doing business, which could be passed through to consumers in the form of lower prices. The resulting expansion of the user base may lead to an increase in tax revenues through which the government could potentially achieve tax neutrality in a limited number of years in all the estimated scenarios. Tax reform could also promote further investment by mobile operators, which could further lead to greater connectivity beyond that captured in the analysis.

The analysis of these tax reform scenarios suggests that they have the potential to have the following impacts:¹

- **Eliminating the international incoming call fee.** Under this scenario, over the 2016-2020 period, increased demand for mobile services has the potential to add a cumulative 159,000 connections, of which 115,000 are 3G connections. Through the direct impacts of the mobile operators and the indirect impacts generated by the activities enabled by mobile operators, increased mobile usage could lead to additional GDP growth, delivering up to an additional US\$ 126 million, with an additional US\$ 9 million in tax revenues in 2020 alone.
- **Eliminating the mobile security tax.** Under this scenario, increased demand for mobile services has the potential to add more than 26,800 extra connections over the period 2016-2020, of which 19,400 are expected to be 3G mobile broadband connections. This could support up to an additional US\$ 21 million in GDP, enabling up to an additional US\$ 1 million in tax revenues to be collected through more broad-based taxation in 2020.
- **Eliminating the FITT contribution.** Under this scenario, over the 2016-2020 period, increased demand for mobile services has the potential to add a cumulative 21,000 connections, of which 15,000 are expected to be 3G mobile broadband. Increased mobile usage could lead to additional GDP growth, delivering up to an additional US\$ 16.5 million in GDP with up to an additional US\$ 0.8 million in tax revenues in 2020.

Based on evidence from a series of studies and best practice principles in taxation, as well as consultation with GSMA and mobile operators, tax reform in the mobile sector has the potential to contribute to economic growth and government revenues beyond its current impact through:

1. The potential effects of these reforms have been considered separately only and interaction between the policy reforms would need to be considered in order to calculate the potential cumulative effect. The introduction of all three reforms could be expected to reduce the impacts estimated.

- **Development of ICT usage across sectors:** By reducing mobile-specific taxation, such as the international incoming calls fee, the government could support an increase in the number of mobile broadband connections, promoting digital inclusion. This has the potential to enable the widespread use of ICT across areas such as healthcare, education and the provision of government services. This has in turn the potential to create new opportunities for innovation, fostering further growth within the sector.
- **Increased economic development:** The tax reform alternatives examined have the potential to increase the usage of mobile services and uptake of mobile broadband. In the long-term this has the potential to increase GDP by US\$ 420 million between 2016 and 2020 in the case of removal of the fee on international incoming calls.
- **Support in the transition towards a knowledge-based economy:** Reforming mobile sector taxation has the potential to encourage widespread use of mobile broadband that in turn provides greater access to information. The creation of local content can also promote higher-skilled employment and the transition to a knowledge-based economy where information drives productivity and economic growth.
- **Improved network infrastructure:** Ensuring an equitable structure of regulatory fees has the potential to increase the investment required to further improve mobile broadband network infrastructure. Further international investment could allow for economies of scale for mobile operators, supporting reduced prices for consumers in the longer term and facilitating the spread of mobile broadband.
- **Sustainable government revenues:** Achieving higher connectivity need not result in a reduction in government revenues in the medium to long-term. By increasing productivity and economic growth, an elimination of the international incoming calls fee has been estimated to lead to tax neutrality in 2018 through the expansion of the tax base.

1. The mobile sector in Honduras

Since the launch of the first services in 1996, the Honduran mobile industry has followed a steady development path. In the last ten years, the number of unique subscribers has grown more than fivefold, totalling 5.4 million users, or 66% of the population as of Q4 2015 (see Figure 1). The mobile market has three operators: Tigo and Claro, the two leading operators whose market shares are 60% and 39.2% respectively, and Hondutel, a state-owned company with 0.9% of the market.²

This report assesses how mobile taxation impacts on digital inclusion and how addressing mobile-specific taxation could complement the government's development goals. The analysis utilises a model of the Honduran mobile sector and economy to examine a number of options for the government to transition to a tax structure where mobile is not subject to distortionary taxation, in a way that promotes economic growth and protects the government's tax revenue position in the medium term.

- This section describes the mobile sector in Honduras, the benefits of digital inclusion, and the current gaps and barriers to greater connectivity.

- Section 2 describes the taxes levied on the mobile sector in Honduras, the implications of these taxes for the mobile sector and the wider economy, and discusses the economic and regulatory environment in Honduras. It also compares the taxes levied in Honduras with international benchmarks and with best practice on taxation principles as recommended by leading international organisations.
- Section 3 considers effective policy alternatives for rebalancing taxes on the mobile sector. These policies can support the Honduran government's overall objectives, while increasing economic growth and productivity.
- Section 4 concludes, illustrating the contribution to fiscal stability of the policies discussed and presents potential steps which could be considered to align mobile taxation to standard goods and services taxation.

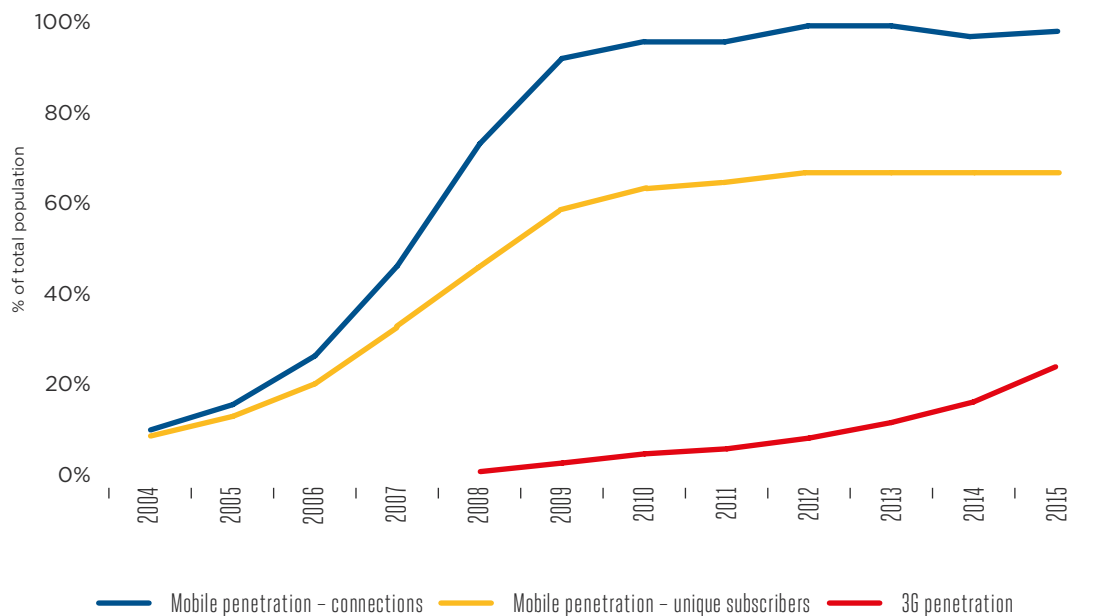
The Appendix describes the economic model of the Honduran mobile sector and economy that has been used in the scenario analysis to estimate the impacts of rebalancing mobile sector taxes.

2. GSMA Intelligence Database, data for Q4 2015.

1.1 Mobile services are driving connectivity in Honduras

Mobile services are crucial to the delivery of connectivity to a large proportion of Honduran residents, as teledensity of fixed-line telephony, i.e. the number of telephone connections for every hundred individuals, is limited and stands at 7%.³

Mobile penetration in Honduras



Source: GSMA Intelligence Database. Penetration rates are calculated as the averages over four quarters.

Figure 1

Investment in network upgrades has led to a high coverage of 3G services, currently available to 89% of the population.⁴ However, the number of 3G connections is still a relatively low share of total connections (28%). This is lower than the Central American average of 41%.⁵

A comparison with a selection of countries from Latin America and others globally with similar penetration rates⁶ and similar real GDP per capita shows that the development of the mobile industry in Honduras has brought a relatively high level of connectivity. Notwithstanding its GDP per capita, the lowest in the region⁷ with an average annual income per person at US\$ 4,583 in purchasing power parity (PPP) adjusted values, Honduras has a penetration rate that is higher than the regional average and similar to that of several richer countries. For example, while Colombia and Peru have per capita income levels twice that of Honduras, the three countries have similar penetration rates.

3. Buddecomm, 2015. Honduras, Telecoms, mobile, broadband and digital media – statistics and analyses

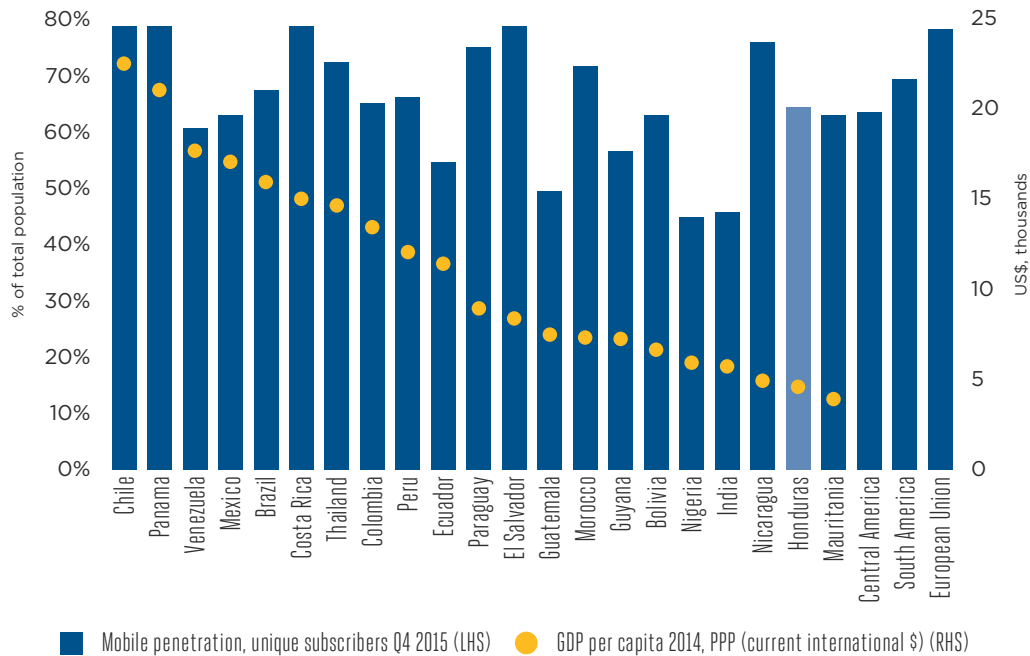
4. GSMA Intelligence Database, data for Q4 2015.

5. GSMA Intelligence Database, data for Q4 2015.

6. The penetration rate per unique subscriber is defined as the ratio between unique mobile subscribers and population.

7. The World Bank, World Development Indicators 2015.

GDP per capita 2014 (PPP US\$), and mobile penetration (unique subscribers) in selected countries in Q4 2015



Source: GSMA Intelligence Database and World Bank World Development Indicators. Central America comprises: Belize, Costa Rica, El Salvador, Guatemala, Mexico, Nicaragua and Panama.

Figure 2

1.2 Mobile services promote economic and social development

Mobile is bringing wide-ranging benefits to the Honduran society and increased mobile connectivity can play an important role in addressing Honduran socioeconomic issues and contributing to the achievement of the government's objectives. In particular:

1. Mobile services promote long-run economic growth:

- a number of studies have already highlighted the economic growth potential of mobile:
- Studies by the GSMA and the World Bank have estimated that a 1% increase in mobile penetration

could lead to an increase in the GDP growth rate of 0.28% in developing countries.⁸

- The World Bank has found that in developing economies, such as Honduras, every 10% increase in broadband subscriber penetration⁹ accelerates economic growth by 1.38%.¹⁰
- A 2012 GSMA/Deloitte/Cisco study has found that substitution from 2G to 3G connections have significant economic benefits.¹¹ For a given level of total mobile penetration, a 10% substitution from 2G to 3G penetration was found to increase GDP per capita growth by 0.15 percentage points. The study

8. This is based on a study of 40 economies over the period 1996-2011; for full details of the methodology, see <http://www.gsma.com/publicpolicy/wp-content/uploads/2012/11/gsma-deloitte-impact-mobile-telephony-economic-growth.pdf>; Qiang, C. Z. W., Rossotto, C.M., 2009. Economic Impacts of Broadband, in Information and Communications for Development 2009: Extending Reach and Increasing Impact, World Bank, Washington D.C., 35-50.

9. The distinction between users and subscribers of telecommunications services should be noted. Users refer to individuals who do not necessarily own or pay for telecommunications services, but who have access to such services through work, family etc. Subscribers, on the other hand, are individuals who pay for subscriptions to such services, to which a number of individuals may have access. Based on ITU, 2014. Manual for measuring ICT Access and Use by Households and Individuals.

10. Qiang, C. Z. W., Rossotto, C.M., 2009.

11. GSMA/Deloitte/Cisco, 2012. What is the impact of mobile telephony on economic growth?.

also found that mobile broadband usage supports growth and that this impact is larger at higher levels of usage. This means that countries with relatively low usage like Honduras have considerable scope for accelerating growth through increased mobile broadband usage.

- Other research suggests that for every new job created in the mobile sector in countries like Honduras, another six are generated in the wider economy.¹²

2. Mobile services promote digital inclusion and the growth of a knowledge-based economy:

the concept of digital inclusion refers to the principle that everyone should benefit from ICT, with no regard to location and/or socioeconomic status. Mobile services provide a cost-effective way of achieving digital inclusion and, by facilitating the exchange of ideas and information, can support a move towards a knowledge-based economy. The World Bank has stated that the movement towards a knowledge-based economy should be the aim of all governments, as knowledge becomes increasingly crucial to preserving national competitiveness.¹³ This study identifies four pillars of knowledge-based economies, one of which is information infrastructure, with technology such as mobile phones required to facilitate effective communication and the dissemination and processing of information.

3. Mobile services enhance productivity, innovation and social development:

by enabling businesses and government to deliver their services faster, and at a lower cost, mobile services increase productivity across the Honduran economy. Mobile services can reduce transaction costs, making it less costly for Honduras to communicate and conduct everyday business operations, supporting the expansion of businesses and enterprises. Through wider effects on the economy, this helps to increase living standards in Honduras and improve Honduras' international competitiveness.

Mobile services also create opportunities for investment, innovation and employment in the mobile sector and in a variety of other jobs that form part of the mobile ecosystem, such as equipment providers, workers in the network

engineering and maintenance industry, and providers of related business services.

Mobile can also enable more effective delivery of public services and support social development. In particular, mobile and internet communication offers an effective means of bringing healthcare and education services to remote and under-served areas, through m-Government initiatives and mobile applications.

For example, a study on the impact of ICT on agriculture in Honduras has shown that the use of SMS to receive market price information can be an effective solution to the absence of timely market information, with farmers reporting an increase of 12.5% for received prices.¹⁴

4. High levels of digital inclusion can stimulate the adoption of innovative solutions to a wide range of socioeconomic issues:

• **Extending financial inclusion through mobile.**

Through mobile money (m-Money), mobile contributes to greater financial inclusion, and as such is a powerful tool for economic and social development, increasing the financial security of people and improving their access to basic financial services.

In addition to this, a large part of the population is currently financially excluded. Data from the World Bank's Global Financial Inclusion Database shows that in 2014 only 31.5% of the adult population in Honduras had a bank account. Further, 45.9% of the Honduran population live in rural areas that lack the necessary banking infrastructure. As such, Honduras presents an opportunity for the development of m-Money. A report by the sector regulator Conatel recognises the importance of mobile money in Honduras as a tool for economic growth through greater financial inclusion, in particular through the provision of financial services to the rural population.¹⁵

Mobile banking and m-Money services were launched by Tigo in January 2011 and have reportedly reached one million users in February 2015.¹⁶ Moreover, in March 2014 Tigo launched a life insurance product with a local partner. This product

12. Based on a number of studies conducted in developing and developed countries; see, for example, Moretti, 2010, O2 for ONS, 2002, Ovum, 2010; Zain, Ericsson, 2009, Kaliba et al, 2006.
 13. World Bank, The four pillars of a knowledge-based economy, 2009.
 14. Allan, P., Agüero, M., Espinoza, S., 2011, The Impact of ICT on Vegetable Farmers in Honduras. Working Paper 243, Inter-American Development Bank.
 15. Conatel, 2015. Estudio de Banca Movil y Dinero Movil, en Honduras.
 16. Buddecomm, 2015. Honduras, Telecoms, mobile, broadband and digital media – statistics and analyses.

sold 150,000 policies in the first six months.¹⁷ The potential impact on the welfare of Honduran residents is amplified by the fact that the access to financial services, especially microfinance services, appears to be an essential tool in coping with extreme poverty.¹⁸

- **Improving healthcare through mobile.** Access to the internet generates different opportunities for healthcare improvements, through better information of patient and health workers, higher prevention through increased health literacy, the adoption of new technologies for diagnosis and services to support management of treatments.¹⁹ The World Economic Forum suggests that the interaction between mobile finance and the health sector creates additional potential benefits in terms of improved transparency in transactions and through several incentive mechanisms as conditional transfers of vouchers or cash, mobile health micro-insurance and more efficient supply chain settlement and credit.²⁰
- **Mobile services can help reduce poverty.** The incorporation of mobile in production and trade activities can stimulate the growth of supply and customers network. Different case studies in Latin America have shown that, by strengthening social and economic networks, mobile services can benefit even rural production and commercial activities.²¹ There is increasing evidence therefore that mobile communication can play an important role in the fight against poverty. As with many other developing economies, Honduras faces several socioeconomic challenges. In 2014, 68.2% of the population was living in poverty while 44.6% of the population lived in extreme poverty.²² Honduras also faces a significant rural-urban income gap: 57.5% of the rural population compared to 33.2% of the urban population lives in extreme poverty.²³
- Overall, the mobile industry has the potential to play a critical role in the achievement of the **UN Global Goals**. The Global Goals set out to end poverty and hunger, ensure inclusive and equitable economic growth and quality education, achieve economic

and gender equality, improve well-being of people of all ages and promote sustainable development. The Global Goals include 17 goals that were finalised and agreed upon in September 2015.²⁴ The Global Goals build on the UN Millennium Development Goals (MDGs) that expired at the end of 2015.

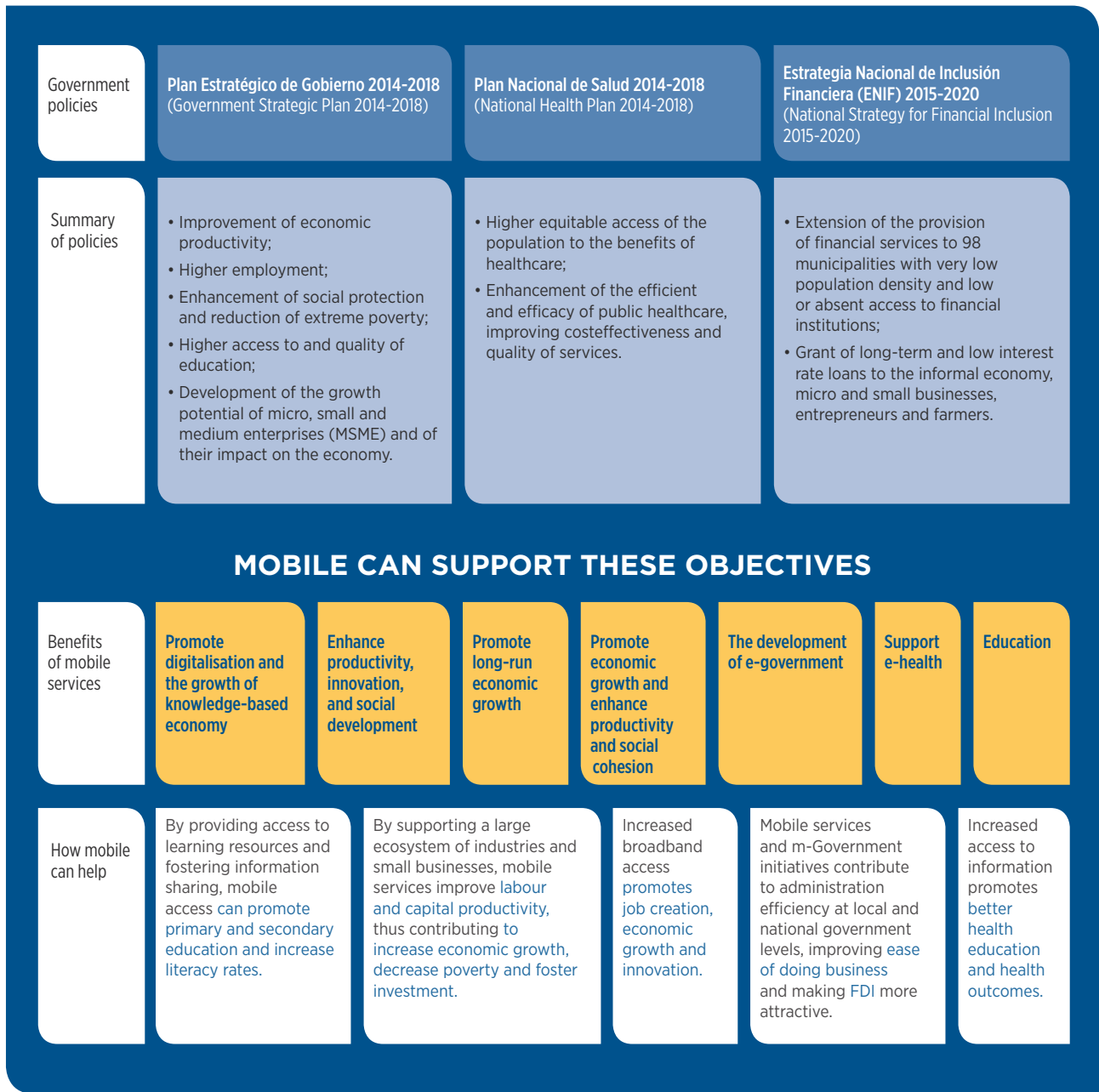
The Honduran government's strategy to address its socioeconomic challenges is outlined in three separate plans that establish the strategic objectives through to 2020:

- The **Plan Estratégico de Gobierno 2014-2018** (Government Strategic Plan 2014-2018) aims to reduce the level of poverty in the country, improving the competitiveness of the Honduran economy, increase employment and enhance both health and education systems.²⁵
- The **Plan Nacional de Salud 2014-2018** (National Health Plan 2014-2018) sets out the government's plan to extend the coverage of health services to the majority of the Honduran population. The two central pillars of the plan are the provision of assistance to the most vulnerable sectors of the population and the prioritisation of the treatment of the diseases that have higher impact on the population.²⁶
- The **Estrategia Nacional de Inclusión Financiera (ENIF) 2015-2020** (National Strategy for Financial Inclusion 2015-2020) is a five year plan aimed at extending the provision of financial services to 98 municipalities with very low population density and low or no access to financial institutions.²⁷

Mobile has the potential to support in a number of these objectives as set out in Figure 3.

17. GSMA, 2014. State of the Industry, Mobile Financial Services for the Unbanked.
 18. Collins, C, Morduch, J., Rutherford, S., Ruthven, O., 2009. Portfolios of the poor, how the World's poor live on a 2\$ a day, Princeton, Princeton University Press.
 19. Deloitte, 2014. Value of Connectivity, Economic and Social Benefits of Expanding Internet Access.
 20. World Economic Forum, 2011. Amplifying the Impact: examining the intersection of mobile health and mobile finance.
 21. Castells, M., Galperin, H., Fernández-Ardévol, M., 2011. Comunicación móvil y desarrollo económico y social en América Latina. Madrid, Fundacion Telefonica.
 22. Instituto Nacional de Estadística (INE), 2014. Encuesta Permanente de Hogares de Propósitos Múltiples, 2001-2014.
 23. Instituto Nacional de Estadística (INE), 2014. Encuesta Permanente de Hogares de Propósitos Múltiples, 2001-2014.
 24. For the Global Goals, see: <http://www.globalgoals.org/>
 25. Gobierno de la Republica de Honduras, <http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39164340>.
 26. Gobierno de la Republica de Honduras, <http://www.salud.gob.hn/doc/upeg/plannacionaldesalud2014.pdf>.
 27. Gobierno de la Republica de Honduras, <http://www.presidencia.gob.hn/?p=7786>.

The role of mobile in driving economic growth in Honduras



Source: Honduran Government website and Deloitte analysis.

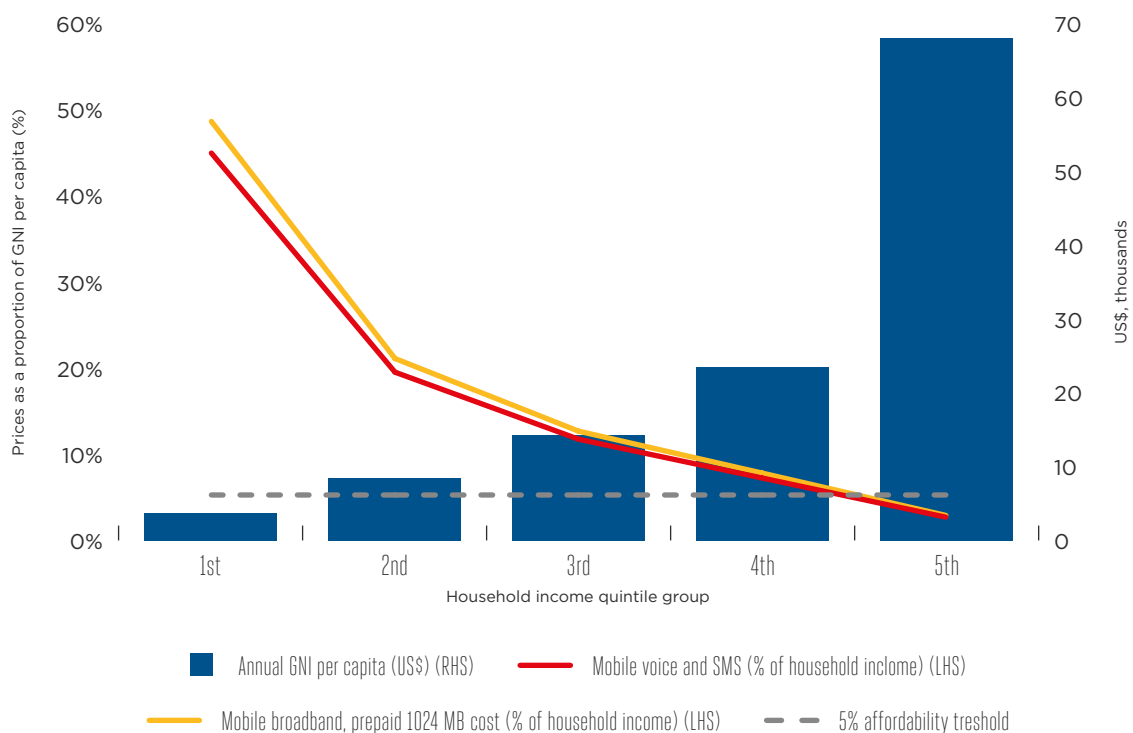
Figure 3

1.3 Connectivity in Honduras: current gaps

The relatively high levels of mobile market penetration in Honduras suggest that the mobile industry is already making an important contribution to the socioeconomic development of the country. However, gaps in access to and availability of mobile services, including mobile internet, remain and there is potential to gain greater benefits through digital inclusion.

Affordability of mobile services and devices is an issue for those at the “bottom of the pyramid”, i.e. the poorest households within the country. Honduras is characterized by a high level of income inequality, the highest in the Latin America and Caribbean region, with the poorest 40% of the population holding just 10.3% of total income.²⁸ The high level of inequality has considerable repercussions on the affordability of mobile services for a large part of the population. For the poorest three quintiles, which corresponds to 60% of the total population, accessing the internet through mobile is unaffordable, given that the cost of mobile broadband amounts to 48%, 21% and 12% respectively of their annual income.

Affordability of mobile services by income group, 2013



Source: Deloitte analysis based on data from GSMA Intelligence Database and ITU (Measuring the Information Society Report 2014). Note: Mobile services refer to a low-user basket of mobile calls and SMS. Data refer to 2013 as more recent prices were not available at the time of writing this report. The analysis takes into consideration only prepaid mobile broadband services because in the first three quarters of 2015 the vast majority (93%) of total connections were associated with prepaid services (GSMA Intelligence Database). Data on mobile broadband cost refer to a prepaid 1024 MB service as prices for 500 MB services are not reported by ITU.

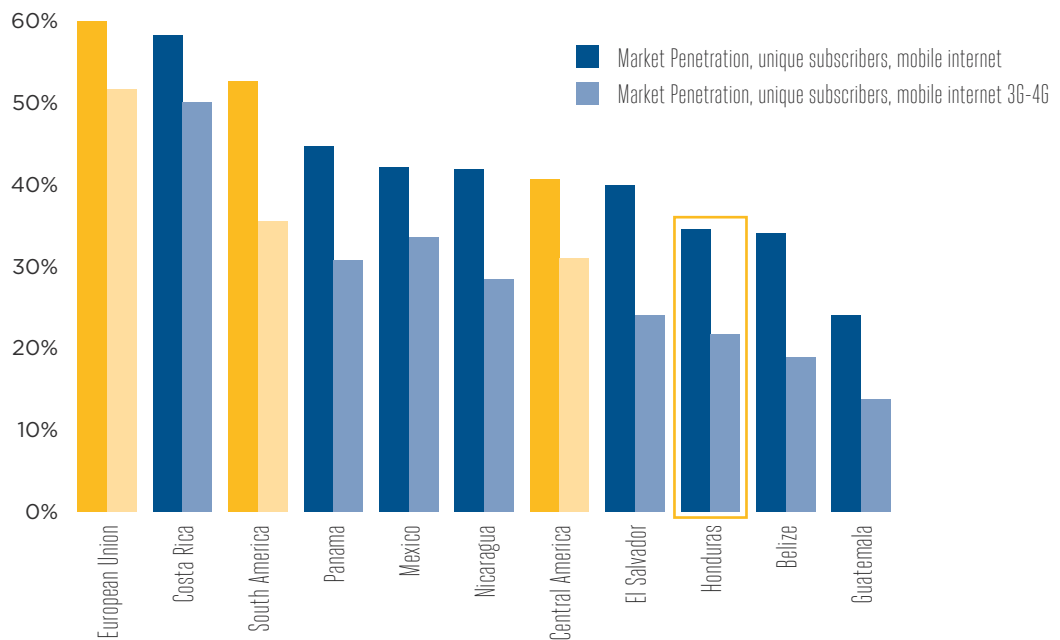
Figure 4

28. The World Bank, World Development Indicators 2015.

A definition of affordability with respect to mobile broadband services is given by the Broadband Commission for Sustainable Development, an organisation created by the International Telecommunication Union (ITU) and the UN to boost the importance of broadband on the international policy agenda. In the Broadband Targets for 2015, the Broadband Commission sets a target for affordability of entry-level broadband services amounting to less than 5% of average monthly income. By this indication, only the richest 20% of the Honduran population can afford mobile broadband.

Only a quarter of the population is accessing mobile internet with 3G-4G technologies. Mobile internet penetration is 34% and 3G-4G penetration is 22%.²⁹ This is lower than the Central American averages of 40% and 31% respectively, showing that there is still scope for improvement.

Mobile internet penetration in selected countries and regions, unique subscribers (% of population), Q4 2015



Source: GSMA Intelligence Database

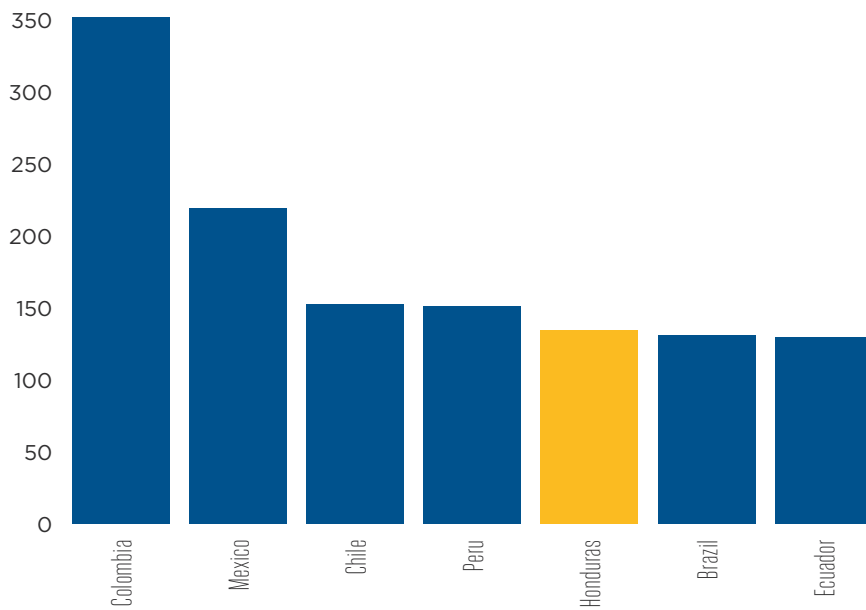
Figure 5

Less than a third of the population is using a smartphone. Only 28% of the Honduran population have access to a smartphone.³⁰ While feature phones allow consumers to access regular mobile services and a limited number of online services, smartphones allow users to fully take advantage of all the possible uses of mobile broadband. A higher adoption of smartphones would therefore be an essential step in broadening digital inclusion in Honduras.

In addition to the low usage of mobile broadband, data on the minutes of use per connection per month suggests that the low purchasing power of Honduran consumers might be reflected in a distorted demand for mobile services. Despite the relatively high level of mobile penetration, the intensity of usage of mobile services in Honduras appear to be lower than other countries in the region, such as Colombia, Mexico, Chile and Peru.

²⁹ GSMA Intelligence Database, data for Q4 2015.
³⁰ GSMA Intelligence Database, data for Q4 2015.

Minutes of use per connection per month



Source: GSMA Intelligence Database, 2014 data. Note: The average for Colombia is calculated on 2013 data. The statistic for Honduras is calculated on operators' data.

Figure 6

Additional potential barriers to digital inclusion are lack of local content and digital illiteracy. The uptake of mobile broadband could also be partially affected by the absence of relevant content for Honduran users and the level of digital illiteracy.



Only the richest 20% of the Honduran population can afford mobile broadband



2. Taxation on the mobile sector in Honduras

The Honduran mobile sector is subject to a number of taxes levied on both operators and consumers. The extent to which these charges ultimately fall on operators or consumers depends on the type of tax and market conditions. Some taxes and fees may be absorbed by operators in the form of lower profits, whilst others may be passed through to consumers through higher prices, or there may be a combination of the two.

This section reviews the taxes applied to mobile consumers and operators in Honduras, focusing on those that are mobile-specific, i.e. those which do not apply to other goods and services in the economy. It also compares the mobile taxation system with similar countries.

2.1 Taxes on mobile consumers in Honduras

Consumer taxes in Honduras apply to the sales of devices, usage of services, SIM cards and mobile broadband. The 15% standard rate of the value-added tax, called the *Impuesto Sobre Ventas* (ISV), is applied to all the mobile services.

Consumer taxes on mobile services in Honduras

Tax base	Tax type	Tax rate
Calls, SMS and data	ISV	15%
SIM cards	ISV	15%
Handsets	ISV	15%

Source: Mobile operator data.

Figure 7

2.2 Taxes on mobile operators in Honduras

Mobile operators in Honduras are subject to general taxes, such as corporation tax on profits, as with any other business. However, they also face a number of specific taxes which are mobile specific, i.e. not levied upon firms in other sectors of the economy. In addition, the mobile operators pay regulatory fees of a recurring and non-recurring nature. Taken together these mobile specific taxes and regulatory fees add to the cost of doing business and potentially increase consumer prices and / or reduce incentives for investment. The following figure sets out the key taxes and regulatory fees faced by mobile operators.

Key taxes and fees levied on mobile operators in Honduras

	Payment base	Tax type	Tax rate
Taxes	Profits	Corporation tax	25% (alternatively 1.5% of net fixed assets)
	Production, sales or income	Municipal business license tax	0.15% - 0.4% (progressive)
	Net income	Solidarity contribution	5%
	Imported network equipment	ISV	15%
		Customs duty	5% - 20%
	Gross income	☆ Mobile security tax	1%
★ Municipal telecoms services selective tax		1.8% (previously 1.5% of gross income from airtime)	
Regulatory fees	Gross income	★ Contribution to the FITT	1%
		★ Operator concession fee	1.5%
		★ Supervisory fee	0.5%
	Numbers assigned	★ Annual numbering fee	US\$ 0.03 / number
	Minutes of incoming calls	★ International incoming calls fee	US\$ 0.03 / minute
	Flat fees	★ Spectrum fee	Based on a number of factors relating to the frequency and adjusted annually in line with CPI
		★ One-time licence fee	Varies
★ One-time spectrum fee		Varies	

☆ Mobile specific tax ★ Telecommunications-specific tax

Source: Mobile operator data.

Figure 8

General taxation on mobile operators

General taxation that applies to mobile operators as well as on other industries includes the following taxes:

- The corporation tax in Honduras is computed based on the highest of three different measures: 25% of the company's profits, 1% of net assets and 1.5% of gross incomes. In addition, when the 25% of the company's profits is payable, a solidarity contribution surtax on the net taxable income is also applied at a rate of 5%.³¹
- A business licence tax is collected annually by Honduran municipalities. This tax is computed at a progressive rate varying between 0.15% and 0.4% of production, sales or income.
- Mobile operators also pay the standard ISV rate of 15% on imported network equipment, as well as customs duties varying between 5% and 20%.

Mobile-specific taxes on operators

Mobile operators are subject to two additional telecommunications and mobile-specific taxes.

- The mobile security tax was introduced in 2011 as a temporary tax, in the framework of the wider Population Security Act (*Ley de Seguridad Poblacional*³²), which established a set of exceptional taxes. This tax is charged at a rate of 1% of gross income of mobile operators.
- The municipal telecoms services selective tax is a municipal tax that is levied on telecommunication services providers at a rate of 1.8% of gross income from airtime services, with municipalities receiving a value of not less than 100,000 Lempiras (HNL) per tower. Given the floor level of this taxation, it raises the possibility that mobile operators might have to make additional payments if the 1.8% rate does not cover the entire amount.

Regulatory fees

In addition to these general taxes on income and network equipment, mobile operators are subject to regulatory fees that are sector-specific. Mobile operators across the world purchase the different rights for their operation through licenses and fees, but the levels of these costs vary significantly. This section sets out the recurring and non-recurring regulatory fees faced by mobile operators in Honduras.

Mobile operators are subject to recurring spectrum fees, where the rate is determined by several technical factors related to the spectrum frequency band and is adjusted annually in line with inflation.

Three additional fees are levied on mobile operators as a proportion of revenues. The operator concession fee and the supervisory fee are charged at the rate of 1.5% and 0.5% of gross income. The third fee is a contribution of 1% to the FITT (*Fondo de Inversiones en Telecomunicaciones y las Tecnologías de la Información y las Comunicaciones*³³), a universal service fund (USF) that was established by the central government in 2014. The main objective of the fund is to provide financial resources for the establishment of universal service and ensure access to ICT and basic telephony in Honduras. However, discussions with mobile operators suggest that this may have not been put to use so far.

It is generally accepted that taxes and regulatory fees levied on revenues, instead of profits, can be inefficient. These taxes discourage investments as taxes applied on gross revenues directly reduce the profitability of all operators, independently of their level of profitability. In a given year, these taxes have the same effect on operators with positive profits and operators with no profits due to recent network investment. These taxes are not transparent. Unlike standard sales taxes, which are collected from consumers on behalf of the government, taxes imposed directly on operators' revenues imply that mobile operators must either suffer a consistent reduction in their profitability or pass these taxes through to consumers in a non-transparent way, as they cannot itemise the tax in prices or receipts. Further, imposing taxation on firms'

31. Information provided by operators.

32. Congreso Nacional de Honduras, Ley de Seguridad Poblacional, 2011. <http://www.tsc.gob.hn/leyes/Ley%20de%20Seguridad%20Poblacional.pdf>.

33. The fund was established with the Decreto Legislativo número 325-2013.

revenues produces lower market volumes and higher prices than a revenue equivalent tax on profits.

Finally, mobile operators are also subject to an international incoming calls fee levied at US\$ 0.03 per minute of calls. Previous Deloitte analysis of similar taxes charged in a number of African countries³⁴ has found that a tax of this type may create a number of unintended negative consequences for local operators, consumers and business in the country in which it is applied. For example, the study noted that following the application of surtaxes on international inbound call termination in Congo Brazzaville, prices of inbound traffic rose by as much as 111% and data from an operator indicated that inbound traffic fell by 36% in two years following the tax. In Honduras, the international incoming calls fee may induce higher prices, reduce incoming calls volumes and negatively impact the economy by increasing the costs for local businesses.

Mobile operators also pay an annual numbering fee set at US\$ 0.03 per number.

The following figure sets out the other various taxes and fees that are imposed on an operator. The number of taxes and fees adds to compliance costs and administrative burden, beyond the actual tax payments.

34. Deloitte and GSMA, 2011. Mobile taxation: Surtaxes on international incoming traffic.



Other taxes and fees payable by mobile operators

	Tax type	Payment base	Tax rate
General taxes	IHSS	Salary cap (HNL 7,000)	7.2%
	RAP	Total amount of monthly salaries and commissions	1.5%
	Infop	Total value of the accrued wages	1.0%
	Tax on net assets (<i>Impuesto al activo neto</i>)	Net assets of the company minus HNL 3,000,000	1.0%
	Enee	Consumption (KW)	HNL 5.20 per KW
	Property tax (<i>Bienes inmuebles</i>)	Value of real estate assets of the company	Based on tax plan
	Labelling tax (<i>Rótulos</i>)	Labels inventory	Charging per square meter, based on the excise plan
	Environmental tax (<i>Tasas Ambientales Serna</i>)	Fixed fee per site	HNL 50,000.00
	Municipal Environmental tax (<i>Tasas Ambientales Municipales</i>)	Set by the Arbitration Plan	Varying rate
	Withholding income tax on software (<i>Retención ISR a software</i>)	Value of the software	10.0%
Telecommunications fees and taxes	Poles rental (<i>Alquiler de Postería</i>)	Number of poles	USD 0.85 per pole
	Internet regulation special contribution (<i>Aporte en Especies Reglamento Internet</i>)	Varying according to number of clients	5.0%
	Licence exploitation fee (<i>Tasa por explotación de la Licencia</i>)	Gross income (it applies to dealers only)	1.5%
	Retention for International Programming Services (<i>Retención por Programación o Servicios Internacionales</i>)	Payments made to international programmers or operators	10.0%
	Concession fee (<i>Derecho de Concesión</i>)	Varying payment, made at the beginning of the grant or renewal, following a tender	-
	Special Contribution (<i>Contribución en Especie</i>)	Absolute payment	-
	Signal blocking in jails (<i>Bloqueo de Señales en Cárceles</i>)	Absolute payment	Variable
	Technical equipment for Conatel	Absolute payment	-
	Conatel employees training	Absolute payment	-
	Withholding taxes	Withholding for National Professional Fees, commissions, allowances, bonuses, bonuses and remuneration for technical services	Fee payments made with no prepayments
Dividend Withholding		Value of dividends	10.0%
Income tax withholding for local suppliers		Turnover of local suppliers who are not subject to prepayments	1.0%
VAT withholding		Monthly payment in accordance with the <i>Acuerdo DEI 215-2010</i>	15.0%
VAT		Raffles and sweepstakes	5.0%
VAT		Value of service provided	15.0%
Local withholding tax (<i>Retención Impuesto Vecinal (AMDC)</i>)		Wages earned by employees in the specific year	Varying according to tax plan
Income tax withholding for employees (<i>ISR Retención a Empleados</i>)		Gross wages earned by each employee	-
Impuesto sobre ganancias de Capital		Net income from asset sales	10%
Withholding for brand use payment		Amount paid to the foreign supplier (brand owner)	25%
Withholding for telecommunications services		Amount payable to foreign suppliers	10%
Withholding for cable TV rights		Amount payable to foreign suppliers	25%
Withholding on interests		Amount payable to foreign institutions	10%

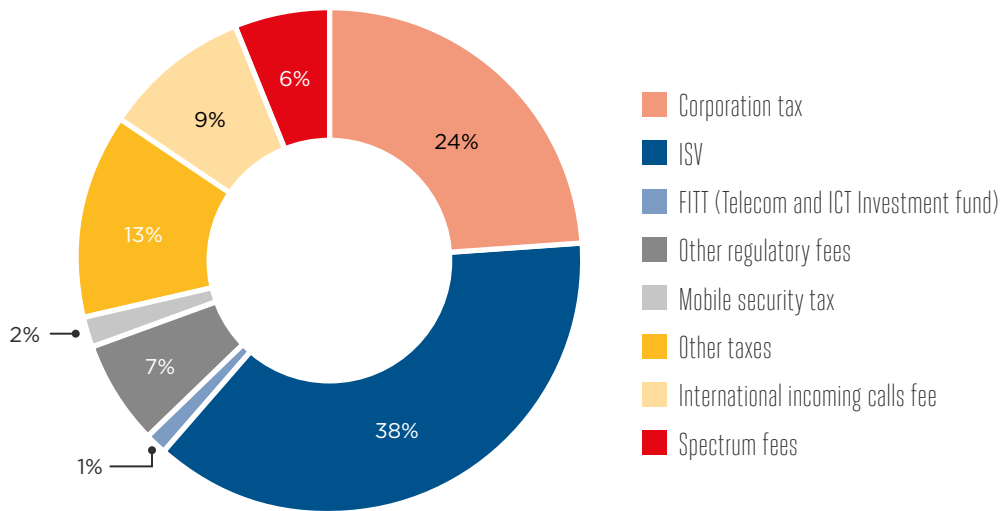
Source: Mobile operator data

Figure 9

2.3 Total taxation on the mobile industry

Direct consumer tax payments comprise the largest share of tax and fee payments in the mobile industry, followed by corporation tax. This is followed by the international incoming calls fee payments and spectrum fee payments. Figure 10 presents the main components of the industry tax and fee payments.

Composition of total tax and fee payments for the mobile industry

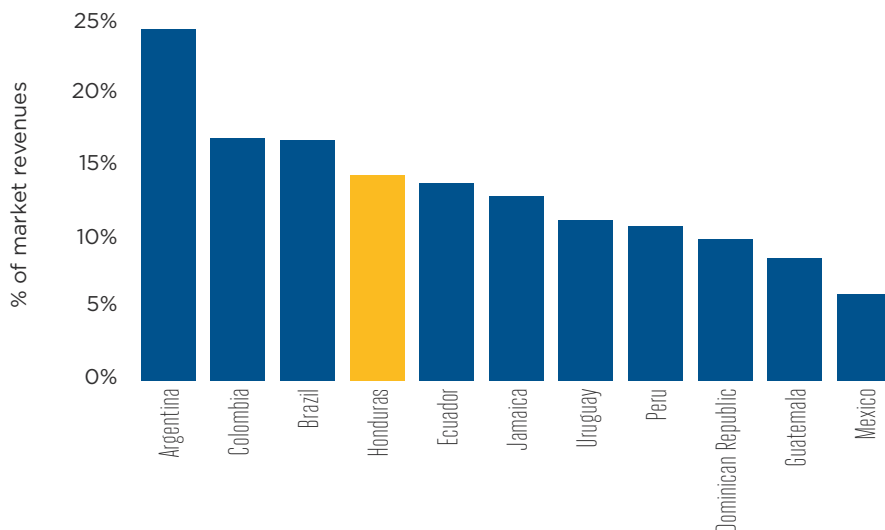


Source: Deloitte analysis based on mobile operator data

Figure 10

As a result of these taxes and fees, mobile operators paid an estimated US\$ 228 million in taxes and fees to the Honduran government: this represented 23% of market revenue. Taxes and fees levied directly on mobile operators comprised 14% of market revenues.

Operator tax and fee payments as a share of market revenues in Latin American countries where similar data is available



Source: Deloitte analysis based on mobile operator data and Deloitte and GSMA, Digital Inclusion and affordability, forthcoming

Figure 11

In addition, mobile operators also pay non-recurring spectrum fees, which add to the tax and fee payments made by the sector. In 2013, Tigo and Claro were awarded spectrum for the provision of 4G services at US\$ 12.06m and US\$ 12.05m respectively.³⁵

The application of telecommunication-specific taxes on gross income such as the contribution to the FITT and the mobile security tax has the potential to create a number of negative economic consequences.

As a result of such taxes being raised on revenues, mobile operators currently face a choice of either suffering a reduction in the profitability of their business or passing these taxes through to consumers. The risk of higher retail prices for consumers is increased by the application of additional mobile and telecommunications-specific taxes as the international incoming calls fee, the municipal telecoms selective tax and annual numbering fee.

2.4 Best practice in taxation policy

An effective tax policy has to balance a number of potentially competing factors. These include the government's revenue needs, supporting key sectors and the practicalities of enforcement and collection, as well as the desire to minimise any negative distortionary impact on the wider economy. Consequently tax policy frequently must strike a balance between the theoretically correct response and one that recognises the practicalities of taxation in a market.³⁶

There are a number of principles that are generally recognised as contributing to an effective tax system, as outlined by international organisations such as the IMF and the ITU.³⁷ These principles are intended to minimise the inefficiencies associated with taxation and regulatory fees, and the distortive impacts that they may have on the wider economy. If applied in Honduras, these principles have the potential to promote mobile penetration, especially mobile internet penetration, and expand investment in the mobile sector, promoting economic growth and increased tax revenues for the government.

Alignment of taxes and regulatory fees in the mobile sector in Honduras with the principles of taxation

Tax	Broad-based	Accounts for externalities	Transparent and enforceable	Incentives for competition and investment	Equitable (not regressive)
Corporation tax	✓	✗	✓	✓	✓
Municipal business licence tax	✓	✗	✓	✗	✓
ISV	✓	✗	✓	✓	✗
Customs duty	✓	✗	✓	✗	✗
Mobile security tax	✗	✗	✓	✗	✗
Municipal telecoms services selective tax	✗	✗	✓	✗	✗
Contribution to the FITT	✗	✗	✓	✗	✗
Operator concession fee	✗	✓	✓	✗	✗
Supervisory fee	✗	✓	✓	✗	✗
Annual numbering fee	✗	✗	✓	✗	✓
International incoming calls fee	✗	✗	✓	✗	✓
Spectrum fee	✗	✗	✓	✗	✓

Source: Deloitte analysis.

Table 1

35. BNAmericas, 2013, Honduras awards 4G spectrum to established players, available at <<http://www.bnamericas.com/en/news/telecommunications/honduras-awards-4g-spectrum-to-established-players>>.

36. IMF, Tax policy for developing countries, 2001.

37. See IMF, Tax policy for developing countries, 2001. And ITU, ICT regulation toolkit, 2014. And ITU, ICT Regulation Toolkit, <http://www.ictregulationtoolkit.org/5.5>.

As shown in the table above, many of the taxes levied on the mobile sector in Honduras do not appear to fully align with key principles of efficient taxation, which has ramifications for the development of the sector and the wider economy. In particular, those taxes that are mobile-specific have a considerable negative impact and lack of alignment with the established principles of taxation:

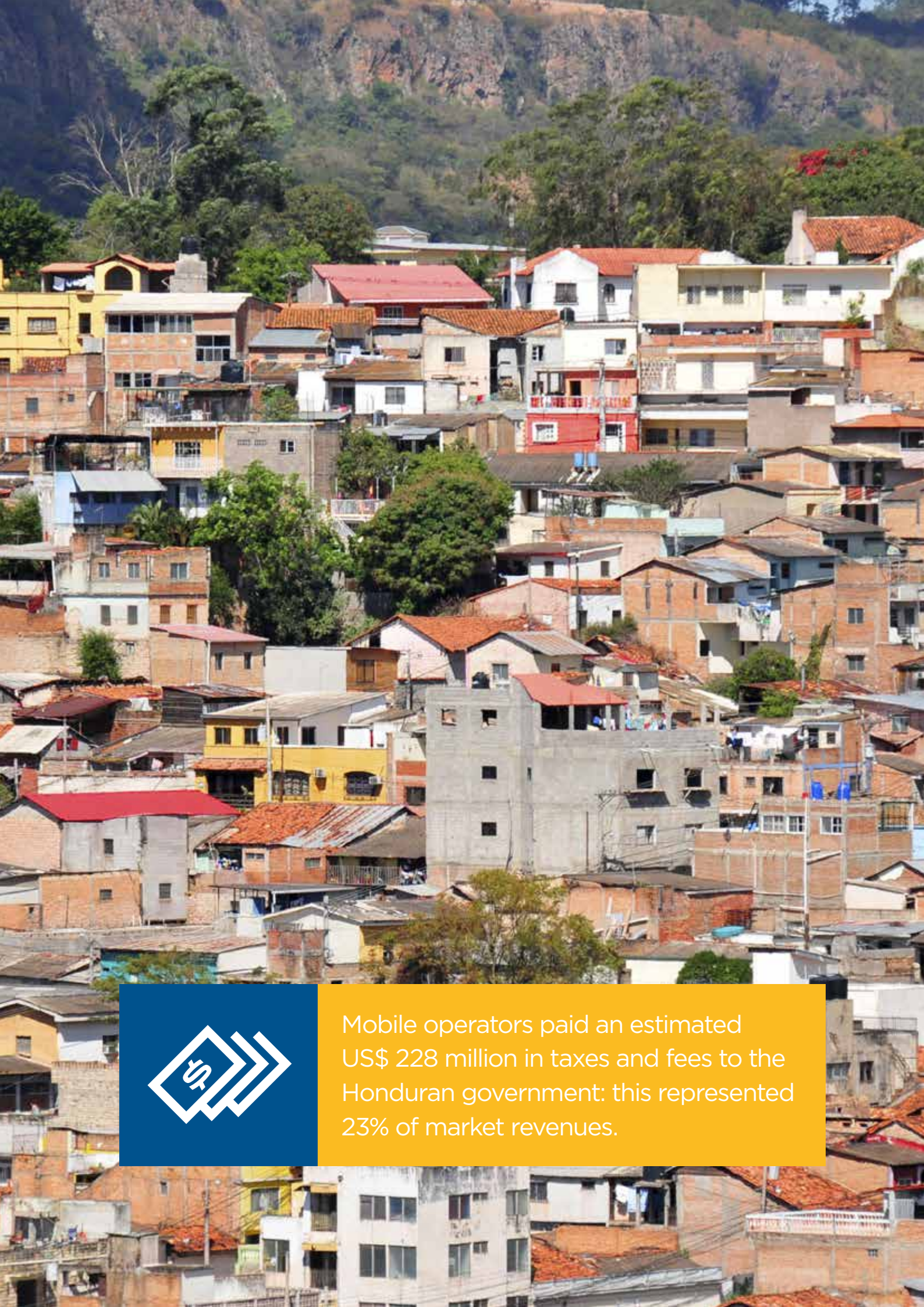
- Mobile-specific taxes and fees fail to account for positive externalities and discourage consumption:** In addition to the general taxes as the corporation tax, the municipal business licence tax and the ISV, mobile is subject to a number of sector-specific taxes and fees such as the mobile security tax, the contribution to the FITT and the international incoming call fee. If passed through to consumers, these taxes can reduce the consumption of mobile services. This risk is particularly high in the case of Honduras because of the limited purchasing power of the majority of the population. By limiting the consumption of mobile services, mobile-specific taxes can have a negative impact on the wider economy. The mobile sector has positive impacts on the economic system through positive spillover effects and facilitation of innovation and productivity in other sectors such as agriculture, healthcare and education.
- Operator taxes could distort operators' investment decisions:** Mobile operator-specific taxes represent a significant part of operators' tax and fee payments and are a key determinant of investment in the sector. Excessive spectrum payments and other regulatory fees, such as the contribution to the FITT and the mobile security tax, could negatively affect the roll-out of network infrastructure,³⁸ through reduced incentives to invest due to lower returns on the capital employed, increased uncertainty on future tax liability, distortions across industries and within ICT sector due to higher costs for mobile operators that further drive (local and foreign) investment away from mobile.

- Fees that are subject to frequent changes increase uncertainty and discourage investment both domestically and internationally:** When a licence or spectrum band is awarded, the final price paid reflects operators' expectations on future cash flows, including tax disbursements, at the time the investment decision is made. If new taxes are introduced or increased after the auction or during licence period, this negatively impacts the operators' business case and can have adverse effects on consumers if some operators were to hold off investment due to taxation uncertainty. Against this background, the increase in the municipal telecoms service selective tax in 2015³⁹ from 1.5% to 1.8% of gross income from airtime may negatively affect the expected value of the mobile operators' investments and could lead to lower investments in the future.

The potential inefficiencies created by these various mobile taxation issues may not only limit the development of the mobile sector, but may also hinder economic growth and the realisation of the positive externalities created by mobile services. In the medium term, the Honduran government has the potential to generate more tax revenue by complementing the wider economic reforms that are currently being implemented with a transition towards a more equitable and balanced taxation structure that supports further development of mobile broadband.

38. Gorecki, Hennessy, Lyons, How impact fees and local planning regulation can influence deployment of telecoms infrastructure, 2011.

39. <http://www.latribuna.hn/2015/08/28/alcaldias-aplicaran-impuesto-a-las-telecomunicaciones/>.



Mobile operators paid an estimated US\$ 228 million in taxes and fees to the Honduran government: this represented 23% of market revenues.

3. Economic impacts of reforming mobile taxation in Honduras

This section discusses the impacts of reforming mobile taxation through three tax policy changes, using a combination of qualitative evidence and a quantitative model of the mobile sector and its impact on the wider economy in Honduras.

Following discussions with Honduran operators and the discussion of the alignment towards international best practice of taxation, three model scenarios were estimated:

- The abolition of the international incoming calls fee.
- The abolition of the mobile security tax.
- The abolition of the contribution to the FITT.

3.1 How mobile taxation in Honduras impacts the economy

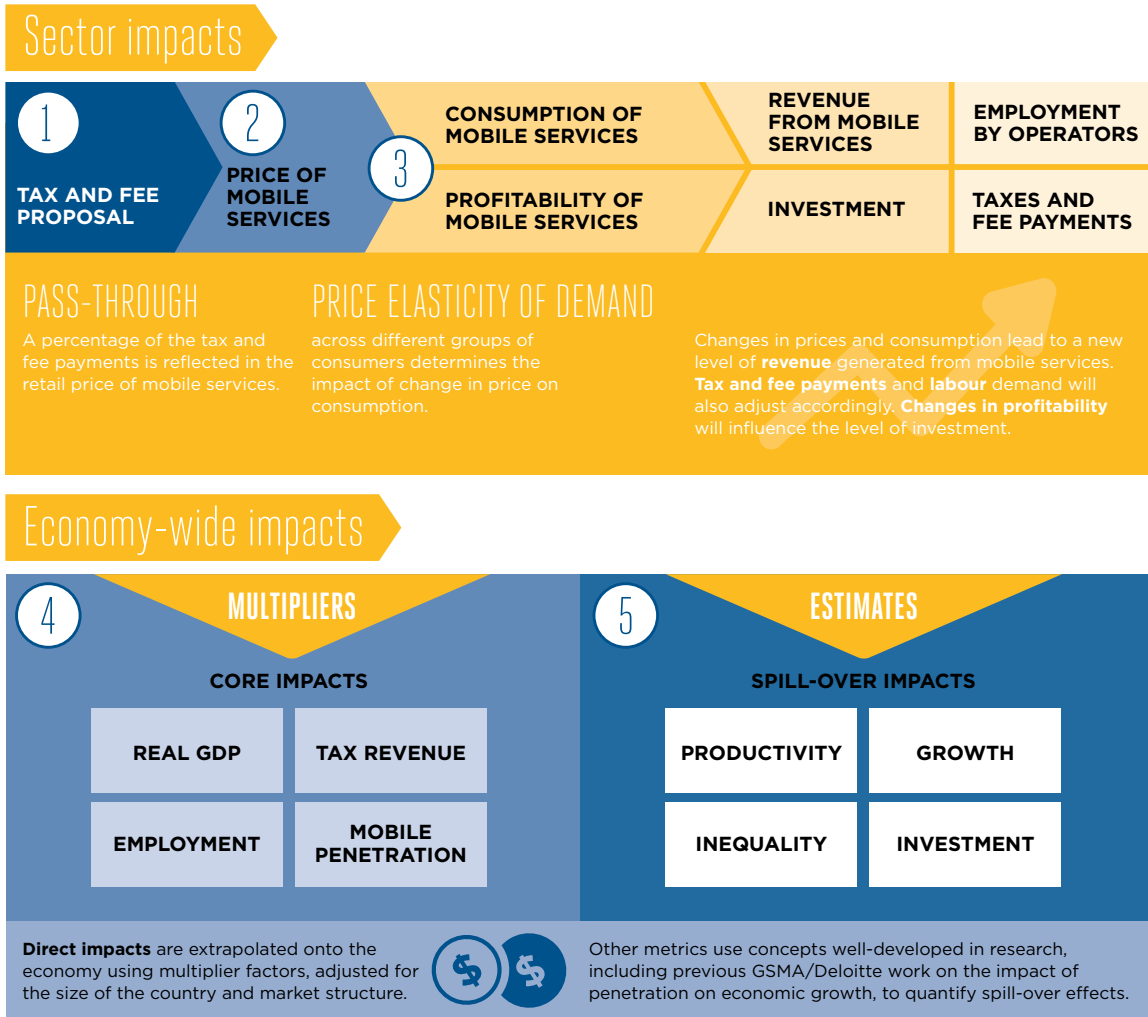
The international incoming calls fee, the mobile security tax and the FITT contribution are telecommunication-specific taxes that may limit the uptake of mobile services. This may put the mobile sector at a competitive disadvantage with respect to other industries with lower taxation, potentially reducing investment and digital inclusion, while failing to recognise the positive spillovers generated by mobile.

By reforming mobile taxation and transitioning to a more balanced taxation structure, the government of Honduras can move towards an inclusive, knowledge-based competitive economy, while potentially benefitting from increased tax revenues in the medium term as a result of GDP growth.

The scenario analysis conducted to estimate the potential impacts of tax reform makes use of an economic model of the Honduran mobile sector and its inter-relationship with the economy alongside, sector-specific data from the GSMA and mobile operators in Honduras and macroeconomic data from the IMF and the World Bank. This analysis therefore considers both impacts of policy changes on both the mobile sector and the economy as a whole. The quantitative impacts of a series of potential reforms are estimated and compared against a base case which assumes a continuation of the current taxation structure. The scenario analysis considers a number of potential reforms separately and their combined impact is likely to be overstated if more than one of the reforms were conducted together.

The figure below illustrates the impacts of tax reform on key economic and sector variables.

Schematics for modelling the economic impacts of mobile taxation changes



Source: Deloitte analysis

Figure 12

The analysis involves several steps, which encompass the impacts outlined in the figure above:

1 The level of taxation and fees applied to the mobile sector are reflected in the retail prices operators charge for using their services. Therefore, a change in taxation or fees will lead to a change in the retail price of mobile services. A pass-through rate represents the percentage of the tax and fee payments which is reflected in the retail price of mobile services.

2 The price of mobile services determines the demand and therefore the aggregate consumption of mobile services. The price elasticity of demand describes the responsiveness of demand to a change in the price, and is defined as the percentage change in demand resulting from a given percentage change in price..

3 Changes in the level of consumption of mobile services lead to a new level of revenue generated by operators, which changes the level of taxes and fee payments and labour demand accordingly.

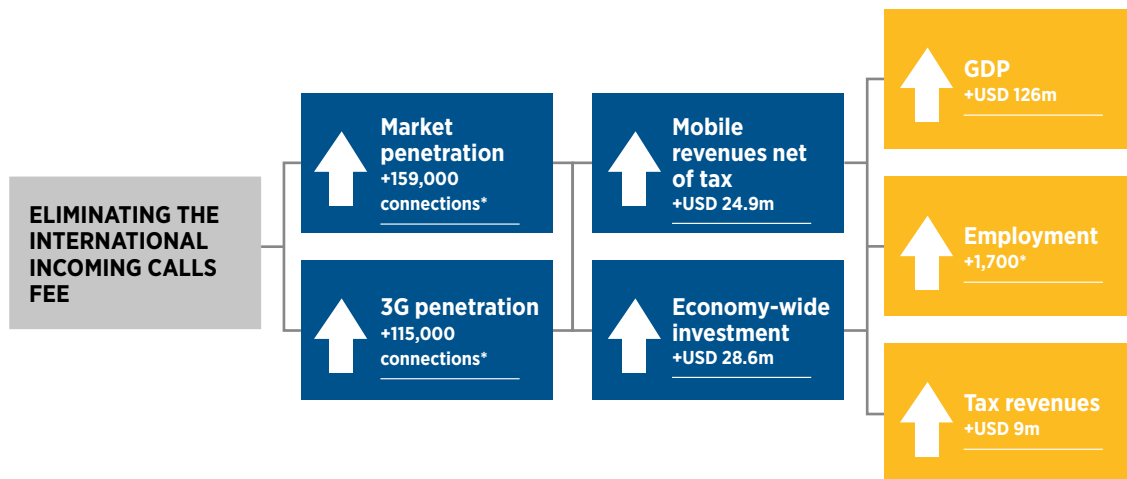
4 These changes to the mobile sector lead to direct impacts on value-add, employment and, through spill over effects, on the wider economy, in particular on real GDP, tax revenues, employment and investment.

5 An elasticity determines the impact of a change in mobile penetration on GDP growth. Multipliers are assumed which allow changes in mobile sector employment to affect the wider Honduran labour force. Productivity is calculated using the total factor productivity impact, described in the Appendix.

3.2 Scenario 1: Eliminating the fee on international incoming calls

The fee on international incoming calls, if passed through to consumers, increases the cost of consumption of international calls, which acts as a barrier towards a higher international integration of the Honduran economy, at the detriment of mobile uptake and the growth of the economy at large. Under the assumption that a proportion of the tax savings would be passed onto consumers in the form of lower prices, eliminating the fee on international incoming calls has the potential to generate the impacts illustrated below.

Potential impact of eliminating international incoming calls fee



Source: Deloitte analysis based on operator data, GSMA intelligence database, IMF World Economic Outlook database and World Bank World Development Indicators database. Note: Variables marked by * refer to the cumulative impact over the period 2016-2020, otherwise the potential impact in 2020 relative to the base case is reported.

Figure 13

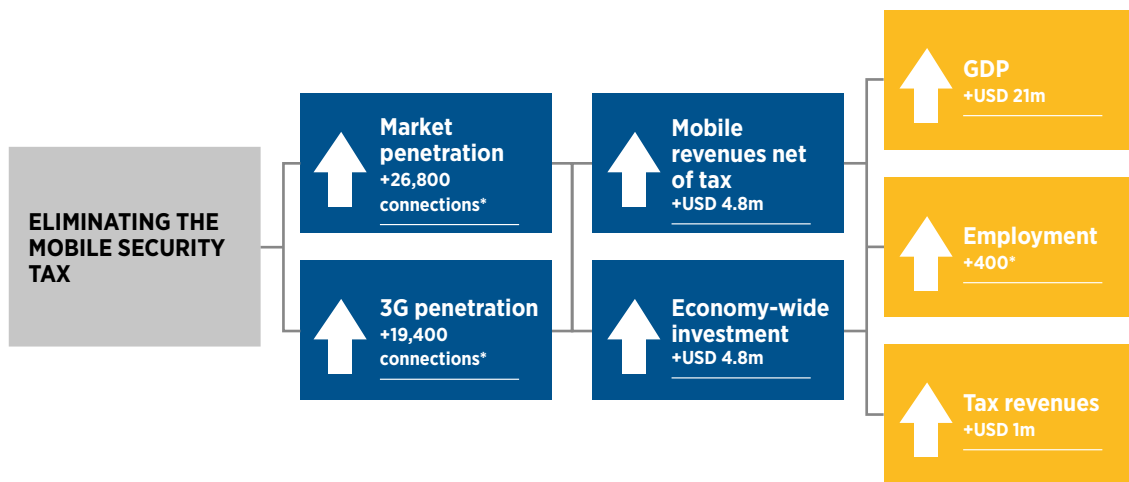
- Over the 2016-2020 period, increased demand for mobile services has the potential to add a cumulative 159,000 connections, of which 115,000 are 3G connections. The positive impact on penetration could lead to an additional 84,600 people having access to mobile services.
- This uptake in penetration could increase the revenues received by the mobile sector by US\$ 24.9 million (in 2014 prices⁴⁰) in 2020 and the productivity of Honduran workers and businesses, potentially leading to the Honduran economy being 0.45% more productive.
- Through the direct impacts of the mobile operators and the indirect impacts generated by the activities enabled by mobile operators, increased mobile usage could lead to additional GDP growth, delivering up to an additional US\$ 126 million in 2020 alone, and potentially generating US\$ 28.6 million additional aggregate investments. Over the period 2016-2020, a total of US\$ 420 million could be added to the economy, investment could increase by US\$ 95 million and employment could be provided to an additional 1,700 Hondurans.
- Moreover, despite an initial fall in tax revenues after the reduction in the tax rate, the government could potentially achieve tax neutrality within three years and in 2020 the increase in GDP growth has the potential to enable up to an additional US\$ 9 million in tax revenues to be collected through more broad-based taxation. While the cumulative effect over the period 2016-2020 is a negative US\$ 6.5 million, the cumulative effect is expected to be positive within a few years after 2020.

40. Unless specified differently, all monetary measures in this section are expressed in 2014 prices.

3.3 Scenario 2: Eliminating the mobile security tax

The mobile security tax is levied on the gross income of mobile operators at a rate of 1%. If passed through to consumers, the mobile security tax increases the cost of accessing and using mobile services, which constrains overall mobile penetration. It is estimated that eliminating the 1% tax on all mobile incomes potentially could drive the following impacts:

Potential impact of eliminating the mobile security tax



Source: Deloitte analysis based on operator data, GSMA intelligence database, IMF World Economic Outlook database and World Bank World Development Indicators database. Note: Variables marked by * refer to the cumulative impact over the period 2016-2020, otherwise the potential impact in 2020 relative to the base case is reported.

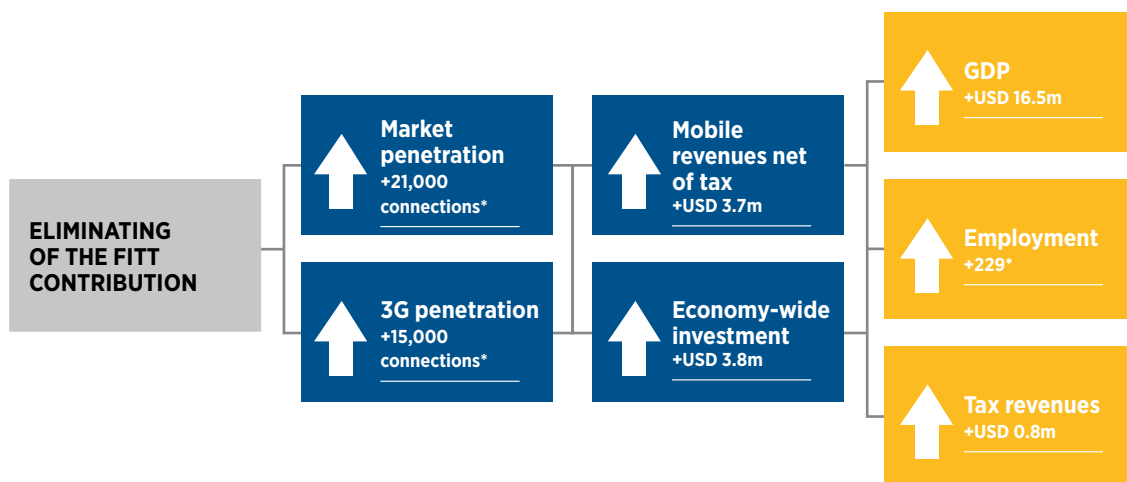
Figure 14

- Increased demand for mobile services has the potential to add more than 26,800 extra connections over the period 2016-2020, of which 19,400 are expected to be 3G mobile broadband connections. This could lead to 14,300 additional subscribers having access to mobile services.
- This uptake in mobile penetration could increase mobile revenues by up to an additional US\$ 4.8 million in 2020.
- Through the direct impacts of the mobile operators and the indirect impacts generated by the activities enabled by mobile operators, increased mobile usage could lead to a higher GDP growth, delivering up to an additional US\$ 21 million in 2020 alone, and potentially generating US\$ 4.8 million extra aggregate investments. Over the period 2016-2020, a total of US\$ 70.6 million could be added to the economy, investment could increase by US\$ 16 million and employment could be provided to an additional 400 Hondurans.
- Moreover, despite an initial fall in tax revenues after the reduction in tax, the government could potentially achieve tax neutrality within three years and in 2020 the increase in GDP growth has the potential to enable up to an additional US\$ 1 million in tax revenues to be collected through more broad-based taxation. While the cumulative effect over the period 2016-2020 is a negative US\$ 2.2 million, the cumulative effect is expected to be positive within a few years after 2020.
- Eliminating the mobile security tax has the potential to encourage consumption and increase access to mobile, thus promoting higher mobile penetration in Honduras. This could have large positive impacts in terms of digital inclusion and adoption of new 3G technologies, while at the same time increasing GDP growth and investment.

3.4 Scenario 3: Eliminating the FITT contribution

The elimination of the contribution to the FITT can generate savings that could be partially passed through to the consumers according to a variable pass-through rate and incentivise new investments. The operators have unanimously expressed concerns regarding the efficacy of the fund in the promotion of higher access to ICT technologies. The lower prices charged to consumers that could result from the abolition of the contribution to the FITT could stimulate a higher access to 3G broadband, effectively supporting digital inclusion.

Potential impact of eliminating the FITT contribution



Source: Deloitte analysis based on operator data, GSMA intelligence database, IMF World Economic Outlook database and World Bank World Development Indicators database. Note: Variables marked by * refer to the cumulative impact over the period 2016-2020, otherwise the potential impact in 2020 relative to the base case is reported.

Figure 15

- Over the 2016-2020 period, increased demand for mobile services has the potential to add a cumulative 21,000 connections, of which 15,000 are expected to be 3G mobile broadband. The positive impact on penetration could lead to an additional 11,100 people having access to mobile services.
 - This uptake in penetration could increase the revenues received by the mobile sector by US\$ 3.7 million in 2020.
 - Through the direct impacts of the mobile operators and the indirect impacts generated by the activities enabled by mobile operators, increased mobile usage could lead to additional GDP growth, delivering up to an additional US\$ 16.5 million in 2020 alone, and potentially generating US\$ 3.8 million additional aggregate investments.
- Over the period 2016-2020, a total of US\$ 55.2 million could be added to the economy, investment could increase by US\$ 12.5 million and employment could be provided to an additional 200 Hondurans.
- Moreover, despite an initial fall in tax revenues after the reduction in tax, the government could potentially achieve tax neutrality within three years and in 2020 the increase in GDP growth has the potential to enable up to an additional US\$ 0.8 million in tax revenues to be collected through more broad-based taxation. While the cumulative effect over the period 2016-2020 is a negative US\$ 1.7 million, the cumulative effect is expected to be positive within a few years after 2020.

4. Mobile taxation in Honduras: potential for reform

Total taxes and fees on mobile consumers and operators in Honduras add to the cost of owning and using a phone and affect incentives for investment in mobile networks. Given the limited purchasing power of the majority of Honduran consumers, higher prices result in a distortion of the consumption of mobile services, as suggested by the low mobile broadband penetration. Reducing the level of taxation on the mobile sector may impact government revenues in the short-term. However, by increasing mobile penetration and promoting economic growth, reducing the tax burden on mobile to that of other standard goods in the economy could also increase the tax base, presenting the potential for the government to recover these revenues. Further, tax reform also provides incentives for greater investment by mobile operators.

Evidence from other developing countries shows that different interventions on the taxation regime could enhance the consumption of mobile services.

- The elimination of an airtime tax by the Uruguayan government in 2007 was followed by a fall in price by over two thirds in the following year. Connections penetrations more than doubled from 65% in 2006 to 140% in 2011. Alongside increased penetration, mobile usage rose from just under 400 minutes per subscriber per year in 2006 to 1,600 in 2011.⁴¹
- In 2008, the Ecuadorian government abolished a telecommunications excise tax that applied on mobile usage and subscriptions. Following this, there was an increase in mobile penetration from 70% in 2007 to over 110% in 2012. Moreover, the cost per minute of calls fell by 63%, which has stimulated a 133% increase in minutes of usage per user per month.⁴²
- In Brazil, reductions to taxation on M2M SIM cards took place in April 2014. Between the second quarters of 2014 and 2015, the number of M2M SIM cards grew by 1.5 million connections, an increase of 17%.⁴³
- A recent report from Deloitte and GSMA has estimated that in Mexico a reduction of the Impuesto Especial sobre Produccion y Servicios (IEPS), a tax on mobile airtime, from 3% to 1.5% could potentially lead to an increase in 1.1 million connections, US\$2,227 million in GDP and 15,000 jobs by 2020. The government has recognised these impacts and has announced that a reduction in IEPS will be brought to the parliamentary agenda in 2016.⁴⁴

41. GSMA and Deloitte, 2012. Mobile telephony and taxation in Latin America.

42. GSMA and Deloitte, 2012. Mobile telephony and taxation in Latin America.

43. GSMA/Deloitte, 2014, Taxation on IoT services.

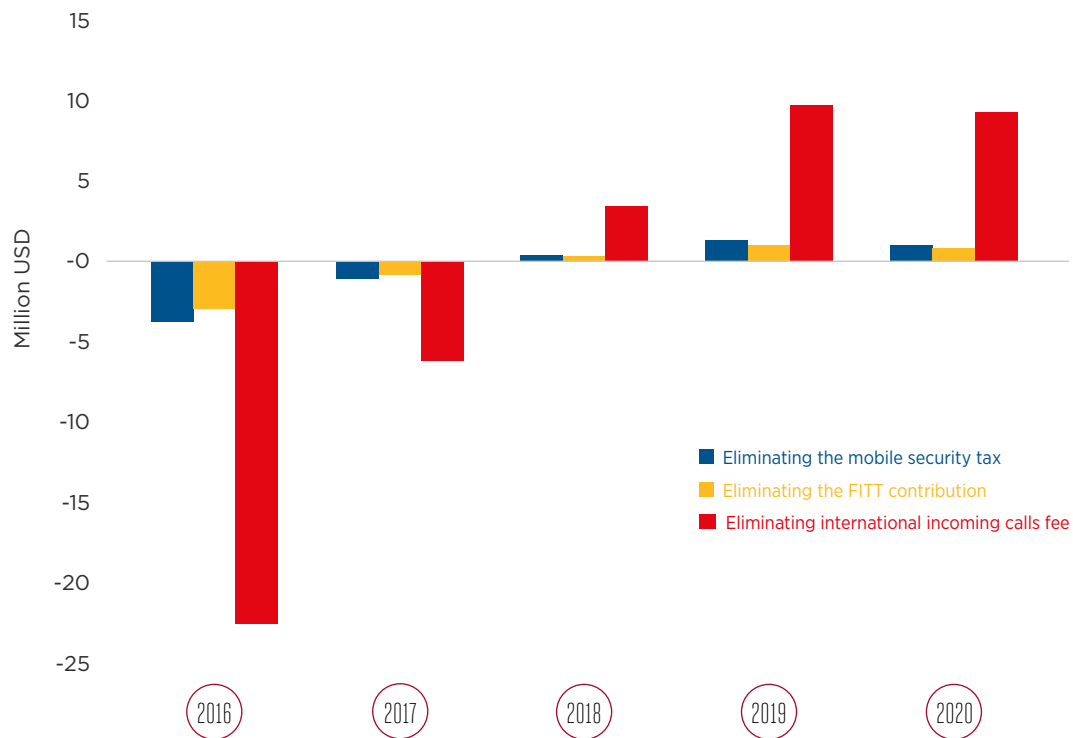
44. GSMA and Deloitte, 2015. Digital inclusion and mobile sector taxation in Mexico. And, Convergencia Latina, 2015. IEPS reductions, brought to the parliamentary agenda 2016 [Online]. Available from: http://www.convergencialatina.com/News-Detail/175137-6-20-IEPS_reductions_brought_to_the_parliamentary_agenda_2016?Lang=EN&SMMK=3590.649%E2%80%A6 [Accessed 27 January 2016].

4.1 Contribution to fiscal stability

The additional economic growth arising from the elimination of the international incoming call fee, the mobile security tax and the contribution to the FITT could create more revenue for the government and potentially enable the government to reach tax neutrality after two years.

The impact on government revenues of the tax policy alternatives analysed in this report are illustrated in Figure 16. The impacts of each policy are estimated independently and their interaction is not considered.

Potential additional tax revenues compared to the base case under tax policy alternatives (US\$ millions)



Source: Deloitte analysis based on operator, GSMA Intelligence Database, IMF and World Bank data

Figure 16

4.2 Options to reform mobile taxation

By transitioning to a taxation structure that is more aligned with best practice principles, the government of Honduras can promote digital inclusion, increase productivity and generate economic growth, while also benefitting from increased tax revenues. This could produce positive spillovers throughout the Honduran economy and society, benefitting the government, mobile operators, consumers and the economy as a whole. Moreover, the subsequent spread of mobile services could contribute to the economic and social objectives of Honduras, improving access to life-enhancing services such as education and health applications and facilitating the country's transition to a knowledge-based economy.

Interviews with the mobile operators demonstrated a recognition of their role in supporting Honduran government revenues and contribute to public services. However, while higher than standard taxation on the mobile sector can potentially deliver short-term benefits to the government, these benefits would need to be balanced with the impacts on the cost of long-run socioeconomic development.

Based on evidence from a series of studies,⁴⁵ the best practice principles outlined in Table 1,⁴⁶ as well as on consultation with GSMA and mobile operators, a number of areas for tax reform have been identified which could support the mobile sector to further contribute to economic growth and government revenues over and above its current impact:

Reduce mobile-specific taxes and fees. Those taxes and fees that are charged exclusively to the sector over and above general taxation may create economic distortions, potentially affecting service price and investment levels. Reducing these sector-specific taxes has the potential to lead to increases in penetration and usage. By extending the user and tax base, reductions in taxation could have a neutral or positive impact for government revenues in the medium to long term. Phased reductions of mobile-specific taxes and fees can represent an effective way for governments to signal their support to the connectivity agenda, to benefit from economic growth resulting from the reductions, and to limit short-term fiscal costs.

Implement supportive taxation for new services such as broadband services and Machine to Machine (M2M). The growth of mobile data, of M2M and of Internet of Things (IoT) applications has the potential to deliver new services and products in a more efficient and sustainable way. This can help accelerate the increase in economic impacts and the mobile ecosystem support sectors such as health care services, education and finance. Supportive taxation, such as that introduced in Brazil, could play a key role in the development of these services.

Reduce complexity and uncertainty of taxes and fees on the mobile sector. Uncertainty over future taxation may mean that the risk of future tax rises is priced into investment decisions and can therefore reduce investment in the medium-term. Governments could seek to limit unpredictable tax and fee changes and to streamline how tax and fees are calculated.

45. GSMA/Deloitte, studies on digital inclusion and mobile taxation in Ghana, Tanzania, Pakistan; GSMA/Deloitte, Mobile taxes and Fees - A Toolkit of Principles and Evidence, 2014.

46. IMF, Tax policy for developing countries, 2001.

Streamline tax regulations and reduce uncertainty over tax implementation.

Numerous mobile-specific fees, often levied on different tax bases, raise compliance costs for mobile operators. Inefficient tax practices raise compliance costs for businesses and forces them to divert scarce resources from more productive uses towards tax administration issues. This can act as a constraint on innovation and competition, potentially limiting the performance of the economy.

Avoid introducing taxes on access to mobile services.

Luxury taxes on handsets and on SIM cards create a direct barrier for consumers to connect and access mobile broadband, especially in emerging markets and for the poorest sectors of the population as SIM and device costs add to the affordability barrier to mobile services.

By implementing these reforms, the Honduran government has the opportunity to make progress on its key ICT and development ambitions.

Development of ICT usage across sectors:

By reducing mobile-specific taxation, the government could increase the number of mobile broadband connections, promoting digital inclusion. This has the potential to enable the widespread use of ICT across areas such as healthcare, education and the provision of government services. This has in turn the potential to create new opportunities for innovation and the development of new applications and content, fostering further growth within the sector.

Increased economic development: Based on the modelling described above, the tax reform alternatives examined have the potential to increase the usage of mobile services and uptake of mobile broadband. In the long-term this has the potential to increase GDP by US\$ 126 million between 2016 and 2020 in the case of the removal of the fee on international incoming calls.

Support in the transition towards a knowledge-based economy:

Reforming mobile sector taxation has the potential to encourage widespread use of mobile broadband that in turn provides greater access to information. The creation of local content can also promote higher-skilled employment and the transition to a knowledge-based economy where information drives productivity and economic growth.

Improved network infrastructure:

Ensuring an equitable structure of regulatory fees has the potential to increase the investment required to further improve mobile broadband network infrastructure. Further international investment could allow for economies of scale for mobile operators, allowing reduced prices for consumers in the longer term and facilitating the spread of mobile broadband.

Sustainable government revenues:

Achieving higher 3G penetration need not result in a reduction in government revenues in the medium to long-term. By increasing productivity and economic growth, eliminating the international incoming calls fee on mobile services and sales is associated with tax neutrality in 2020.

Methodology

A.1 Estimation of the economic impact of a tax change

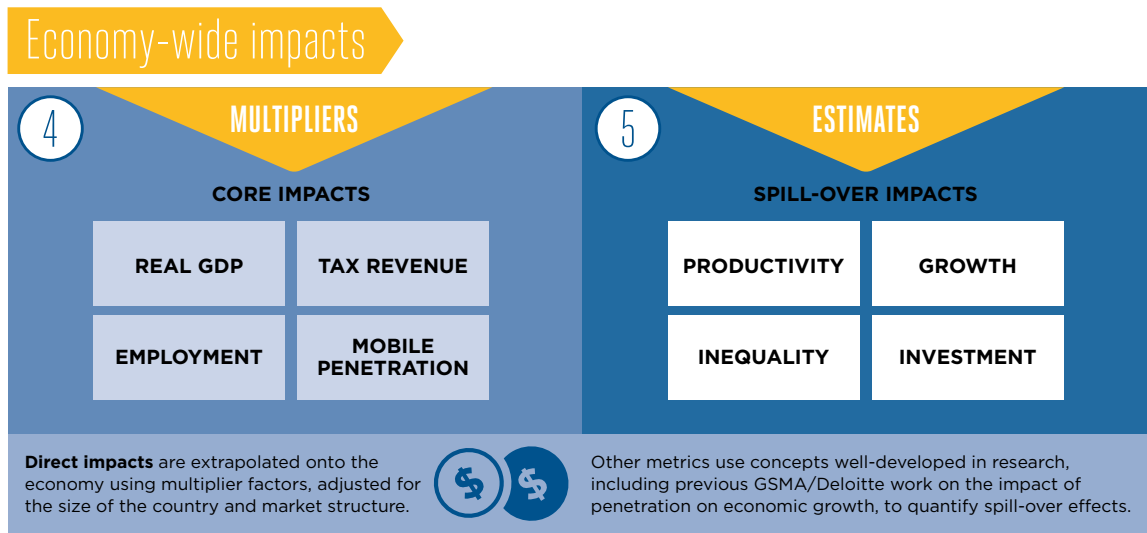
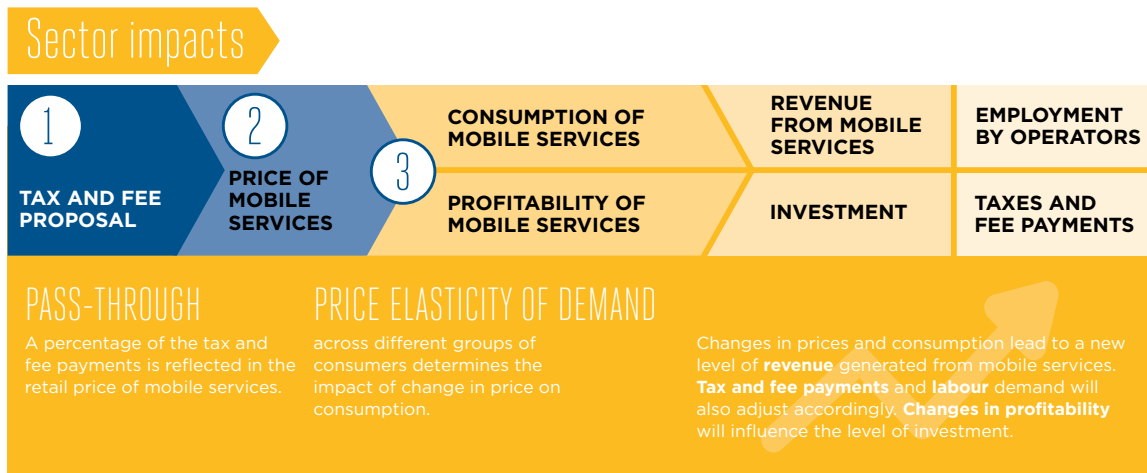
In order to conduct the tax scenario analysis, an economic model was created to describe the mobile sector and the macro-economy of Honduras. This model is able to forecast the impacts of more than 25 sector-specific and macroeconomic variables up to 2020, which can be driven either by removing or changing current taxes and fees or by the introduction of a new tax or fee.

Firstly, a base case scenario is developed for the mobile sector and economy, where taxes and fees remain at their current level throughout the period 2016-2020. Then, a simulation of alternative policy scenarios quantifies the economic impact of reformed mobile sector taxation. It is assumed that the tax policy is implemented in 2016 and the model estimates the effects up to 2020. The impacts of each policy are estimated independently and their interaction is not considered.

Modelling the macroeconomic impact of changes to mobile taxation in Honduras

As illustrated in Figure 17 the following steps are involved in the modelling process:

Schematics for modelling the economic impacts of mobile taxation changes



Source: Deloitte analysis

Figure 17

- The tax or fee change affects the price of mobile services. This depends on the extent to which the tax reduction is passed on to consumers, modelled by a pass-through rate which determines the percentage of the tax and fee payments that is reflected in the retail price of mobile services. All assumptions in the model are described in more detail in the section below.
- Changes to the price of mobile services affect their consumption. In order to estimate this, assumptions are made on the price elasticity of demand,⁴⁷ which measures how much demand for mobile services will change in response to a price change.
- Changes in prices and consumption alter the amount of revenue generated from mobile services. Increased demand generates additional employment opportunities in the sector, while increased operator revenues enable additional capital expenditure on the development of network infrastructure.
- These sector impacts lead to economy-wide impacts, which are estimated through assumptions that describe the impact of the mobile sector on the wider Honduran economy. These effects include the impact on GDP, calculated through a multiplier that links mobile and 3G penetration rates to economic growth, and the effect on employment, calculated through a multiplier, which estimates the number of jobs created

47. An elasticity describes the quantitative impact of a variable on another variable; the usual notation is that a 1% increase in a variable will lead to an x% change in another variable.

across the economy for every job created within the telecommunications sector. The proliferation of mobile services is captured by an increase in productivity, quantified through the change in Total Factor Productivity (TFP).

- As a result of additional GDP growth from reformed taxation on mobile, the potential short-term loss of tax revenues from the mobile industry can be offset by tax revenues from more broad-based consumer and operator taxes.

The inputs for the model have been provided by operators in Honduras, the GSMA and publicly available statistics from the World Bank and the IMF and include forecasts for 2015 and subsequent years. The outputs are derived based on estimates of the elasticity of demand for mobile services from a number of developing markets, while the impacts of mobile and broadband penetration on GDP have been derived from econometric studies of similar developing markets.

A.2 Key assumptions

The assumptions underlying the model have been developed on the basis of a review of academic literature and previous studies in this area. These are discussed in more detail below.

Pass-through rates

Taxes and fees paid by mobile operators and consumers may be completely or partly passed-through to the end-consumer prices. The level of pass-through of taxes and fees to final prices typically depends on operators' market power and the price elasticity of demand, among other factors. For this analysis, an average pass-through rate of 75% has been assumed for taxes that fall directly on retail prices. The same pass-through rate (75%) has been assumed for taxes that fall directly on wholesale prices. These assumptions were based on market characteristics and Deloitte analysis of telecoms markets worldwide.

Price elasticity of demand

A change in the price of mobile services may lead to a change in the consumption of these services, both in terms of ownership and usage. Consumption changes depend on the price elasticity of demand, that is, the responsiveness of consumers to price changes. The assumptions regarding elasticity of demand are based on a review of studies conducted in a number of developing markets on the elasticity rates observed. Given the substantially different levels of market penetration of 2G and 3G services in Honduras, different elasticities of demand for mobile subscriptions are assumed for 2G and 3G mobile services, respectively -0.83 and -1.03 ⁴⁸. For those that own mobile devices, demand for mobile services is more elastic: the elasticity of demand for mobile services is assumed to be -0.95 for 2G and -1.19 for 3G mobile services, based on a number of studies within the field.⁴⁹

48. Baigorri and Maldonado (2010); UK Competition Commission, 2003.

49. See, for example: Gruber and Kontroupis, 2010, Mobile telecommunications and the impact on economic development; Wheatley, J. J., 1998, Price elasticities for telecommunication services with reference to developing countries; GSMA, 2005, Tax and the digital divide: How new approaches to mobile taxation can connect the unconnected. London: GSMA

Employment multiplier

The employment multiplier is used to estimate the impact of a change in employment in the sector on total employment in the economy. The magnitude depends on the economic characteristics of the sector, such as the degree of interconnection across the supply chain and the openness of the economy. Based on the characteristics of the Honduran mobile sector and the general economy the employment multiplier is assumed to be 6.21.⁵⁰ That is, for every additional job created within the mobile sector, an additional 6.21 jobs are generated in the wider Honduran economy.

Market penetration Impact

There is substantial evidence in the literature on the impact of mobile penetration on GDP growth. Analysis conducted by the GSMA on the impact of mobile and 3G penetration on GDP growth estimated that a 1% increase in market penetration leads to an increase in GDP growth of 0.28 percentage points.⁵¹ In terms of the impact of internet penetration, it is assumed that a 1% increase in internet penetration increases the GDP growth rate by 0.077 percentage points.⁵² This model does not consider switching between 2G and 3G services and so these impacts are treated separately.⁵³

Total Factor Productivity Impact

The impact on TFP is calculated based on the change in GDP, employment and investment. TFP is a measure of economic productivity that accounts for changes in output over and above those expected as a result of increased employment and investment. It is defined as follows:

$$TFP = \frac{GDP}{Capital^a Labour^b}$$

where it is assumed that $a = 0.3$ and $b=0.7$ ⁵⁴.

50. This figure was based on a number of studies conducted in developing and developed countries; see, for example, Moretti, 2010; O2 for ONS, 2002; Ovum, 2010; Zain, Ericsson, 2009; Kaliba et al, 2006.
 51. This is based on a study of 40 economies over the period 1996-2011; for full details of the methodology, see <http://www.gsma.com/publicpolicy/wp-content/uploads/2012/11/gsma-deloitte-impact-mobile-telephony-economic-growth.pdf>
 52. Qiang, C. Z. W., Rossotto, C.M., 2009, Economic Impacts of Broadband, in Information and Communications for Development 2009: Extending Reach and Increasing Impact, World Bank, Washington D.C., 35-50.
 53. That is, given that it is not known whether a new 3G subscriber may previously have been a mobile user, this is treated as an increase in internet penetration only, not as an increase in mobile and internet penetration.
 54. Bassanini A and Scarpetta S, 2001, "The Driving Forces of Economic Growth: Panel Data Evidence for the OECD countries".

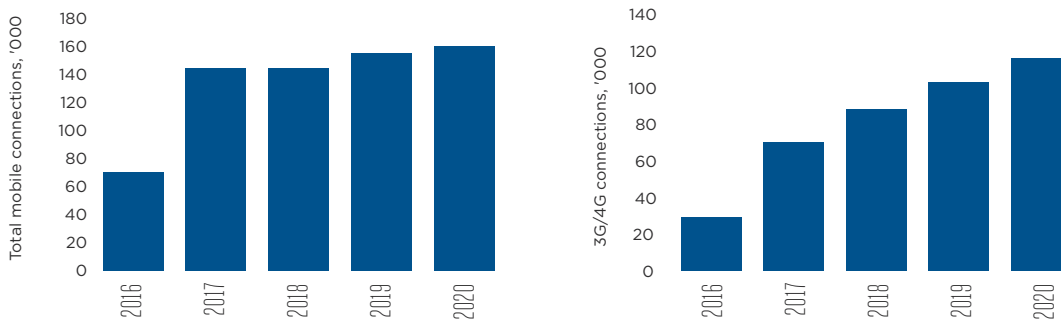
A.3 Scenario simulation results

This report uses a macroeconomic model in order to assess the impacts of a change in taxation policy on the mobile sector and the wider economy. Three scenarios were addressed and each was compared against the base case scenario, where there is no change in tax policy. The overall findings of each scenario are described in more detail in the sections below, on the assumption that the change in tax policy is implemented in 2016.

Scenario 1

Scenario 1 models the elimination of the international incoming calls fee. This reduction is passed through to consumers in the form of lower prices which could stimulate an additional 160,000 mobile connections in 2020, with a forecasted increase by 271.8 million minutes of use relative to the base case. This could raise total mobile penetration by 1.6% relative to the base case in 2020, extending access to mobile telephony across Honduras. The increased affordability has the potential to encourage consumers to take up new services and additional 3G/4G connections could be up to 115,000 in 2020.

Potential additional impact on total mobile penetration (left) and mobile broadband penetration (right) in Scenario 1 relative to the base case

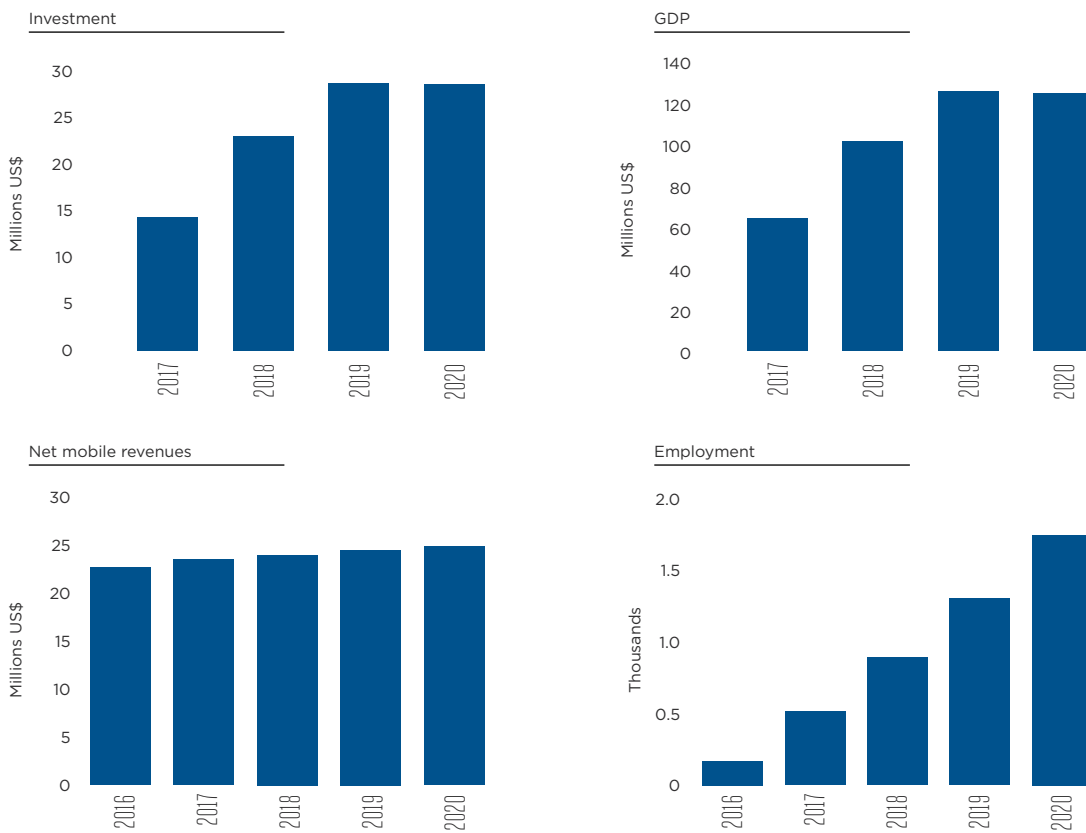


Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data

Figure 18

The increase in connections could subsequently benefit both the mobile sector and wider economy. Increased usage could increase operator revenues by US\$ 25 million, enabling an additional US\$ 1.2 million of capital expenditure, which could be used for expanding additional sites across Honduras, further increasing coverage of mobile broadband services. Increased economic activity and the development of technology and innovation as a result of the growth of the mobile sector could then be reflected in an additional US\$ 125.7 million and US\$ 28.6 million in GDP and investment respectively relative to the base case in 2020, whilst employment could also rise by over 1,700 over the 2016-2020 period.

Potential additional impact on macroeconomic indicators in Scenario 1 relative to the base case

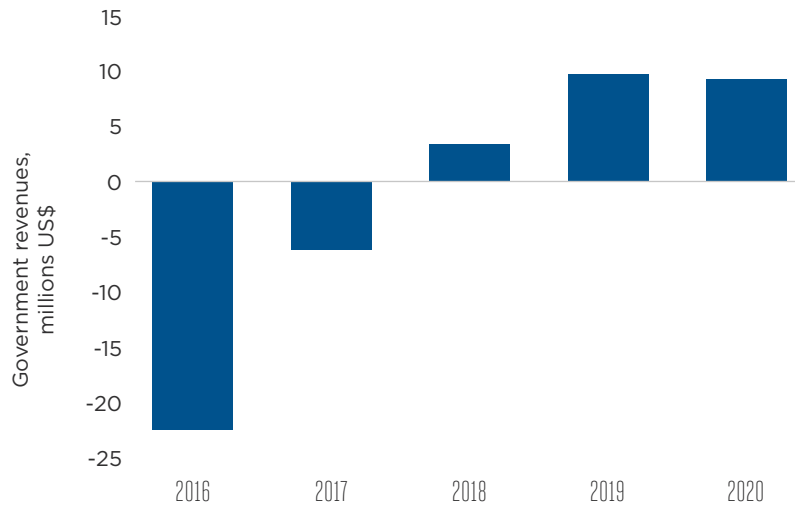


Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data

Figure 19

As a consequence of wider economic growth, it is estimated that the government of Honduras could also benefit from increased tax revenues in 2020 relative to the base case. Although tax revenues could fall in the initial years following the elimination of the international incoming calls fee, the expansion of the tax base following wider economic growth could allow for tax neutrality in 2018 and an increase in tax revenues by US\$ 9.3 million relative to the base case in 2020.

Potential tax revenues in Scenario 1 relative to the base case



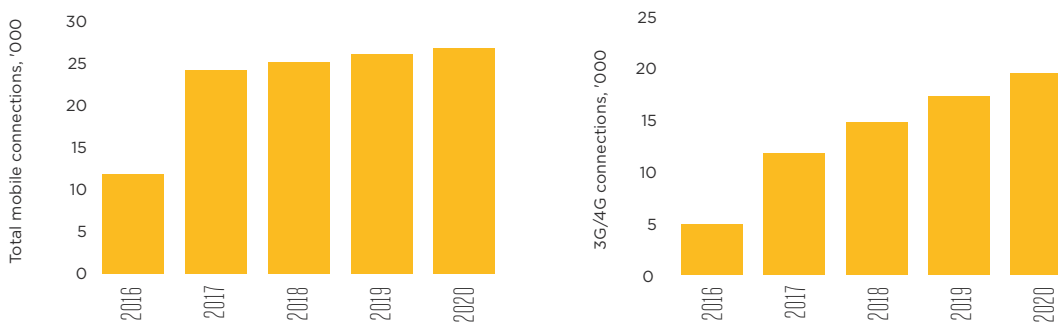
Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data
 Note: tax revenues forecasts for 2020 are lower than forecasts for 2019 because real GDP growth rate forecast for 2020 is negative

Figure 20

Scenario 2

Scenario 2 estimates the impact of the elimination of the mobile security tax. This reduction is passed through to consumers in the form of lower prices which could stimulate an additional 27,000 mobile connections in 2020, with a forecasted increase by 45.8 million minutes of use relative to the base case. This could raise total mobile penetration by 0.27% relative to the base case in 2020, extending access to mobile telephony across Honduras. The increased affordability has the potential to encourage consumers to take-up new services and additional 3G/4G connections could be up to 19,400 in 2020.

Potential additional impact on total mobile penetration (left) and mobile broadband penetration (right) in Scenario 2 relative to the base case

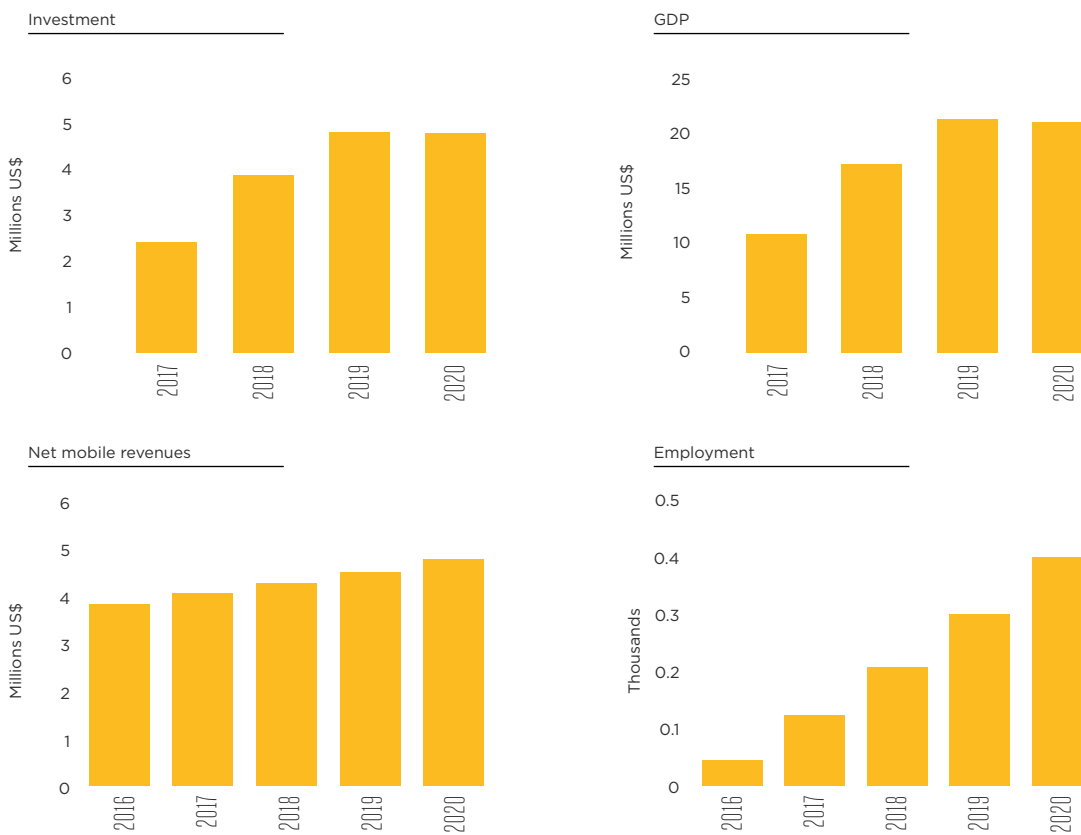


Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data

Figure 21

The increase in connections could subsequently benefit both the mobile sector and wider economy. Increased usage could increase operator revenues by US\$ 4.8 million, enabling an additional US\$ 0.3 million of capital expenditure, which could be used for expanding additional sites across Honduras, further increasing coverage of mobile broadband services. Increased economic activity and the development of technology and innovation as a result of the growth of the mobile sector could then be reflected in an additional US\$ 21 million and US\$ 4.8 million in GDP and investment respectively relative to the base case in 2020, whilst employment could also rise by over 400 over the 2016-2020 period.

Potential additional impact on macroeconomic indicators in Scenario 2 relative to the base case

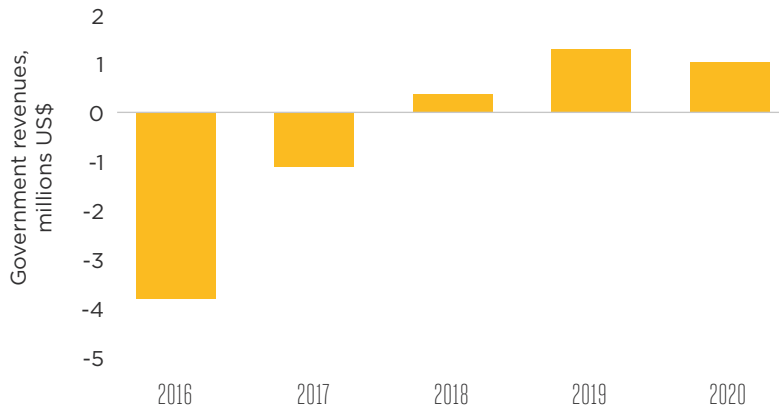


Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data

Figure 22

As a consequence of wider economic growth, it is estimated that the government of Honduras could also benefit from increased tax revenues in 2020 relative to the base case. Although tax revenues could fall in the first years following the elimination of the mobile security tax, the expansion of the tax base following wider economic growth could allow for tax neutrality in 2018 and an increase in tax revenues by US\$ 1 million relative to the base case in 2020.

Potential tax revenues in Scenario 2 relative to the base case



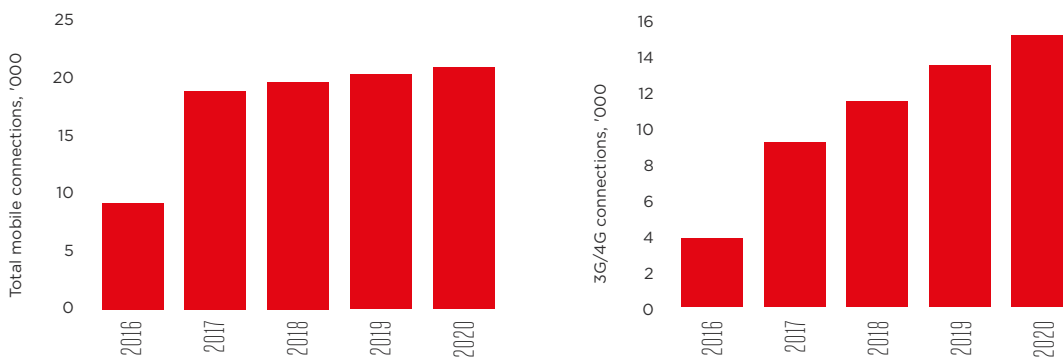
Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data
 Note: tax revenues forecasts for 2020 are lower than forecasts for 2019 because real GDP growth rate forecast for 2020 is negative

Figure 23

Scenario 3

Scenario 3 models the elimination of the contribution to the FITT. This reduction is passed through to consumers in the form of lower prices which could stimulate an additional 21,000 mobile connections in 2020, with a forecasted increase by 35.8 million minutes of use relative to the base case. This could raise total mobile penetration by 0.2% relative to the base case in 2020, extending access to mobile telephony across Honduras. The increased affordability has the potential to encourage consumers to take-up new services and additional 3G/4G connections could be up to 15,100 in 2020.

Potential additional impact on total mobile penetration (left) and mobile broadband penetration (right) in Scenario 3 relative to the base case

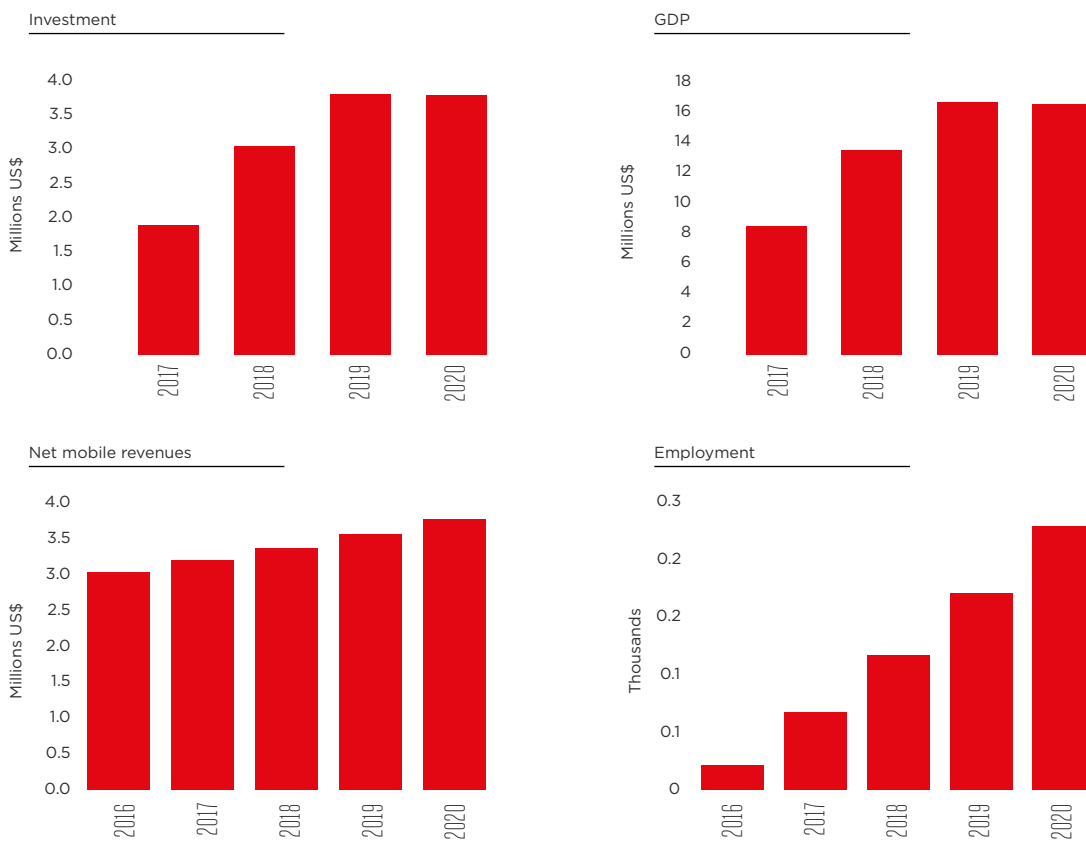


Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data

Figure 24

The increase in connections could subsequently benefit both the mobile sector and wider economy. Increased usage could increase operator revenues by US\$ 3.7 million, enabling an additional US\$ 0.2 million of capital expenditure, which could be used for expanding additional sites across Honduras, further increasing coverage of mobile broadband services. Increased economic activity and the development of technology and innovation as a result of the growth of the mobile sector could then be reflected in an additional US\$ 16.5 million and US\$ 3.8 million in GDP and investment respectively relative to the base case in 2020, whilst employment could also rise by over 230 over the 2016-2020 period.

Potential additional impact on macroeconomic indicators in Scenario 3 relative to the base case

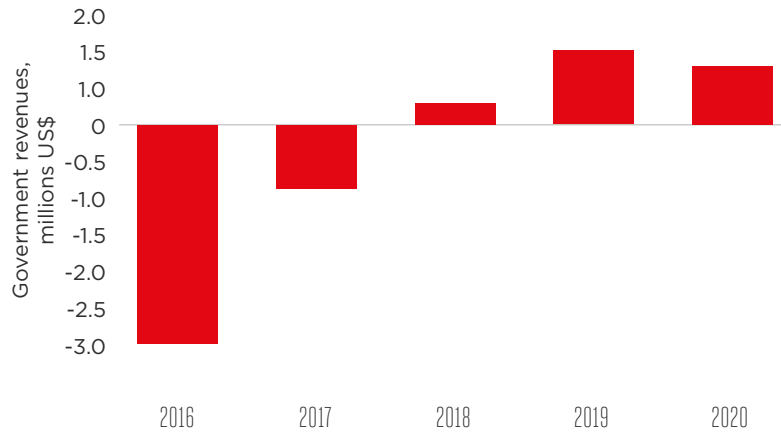


Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data

Figure 25

As a consequence of wider economic growth, it is estimated that the government of Honduras could also benefit from increased tax revenues in 2020 relative to the base case. Although tax revenues could fall in the first years following the elimination of the contribution to the FITT, the expansion of the tax base following wider economic growth could allow for tax neutrality in 2018 and an increase in tax revenues by US\$ 0.8 million relative to the base case in 2020.

Potential tax revenues in Scenario 3 relative to the base case



Source: Deloitte analysis based on operator, GSMA, IMF and World Bank data
 Note: tax revenues forecasts for 2020 are lower than forecasts for 2019 because real GDP growth rate forecast for 2020 is negative

Figure 26



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GSMA HEAD OFFICE

Floor 2
The Walbrook Building
25 Walbrook
London
EC4N 8AF
United Kingdom
Tel: +44 (0)207 356 0600
Fax: +44 (0)20 7356 0601